Tecnológico de Monterrey

IBT/BBE

B.S. in Biotechnology Engineering

Unlock the science of tomorrow.

Why study this program at Tec?

From your very first semester, you become part of an environment where biology, genetic engineering, biochemistry, process engineering, and bioinformatics come together to turn global challenges into real solutions.

Here, you learn to design bioprocesses, optimize biological systems, and develop products that impact sectors such as health, food, the environment, and energy—with an ethical and sustainable approach.

Is this your path?

If you're passionate about living organisms, technology, and contributing to the well-being of the planet and humanity...

IBT at Tec is your platform to make it happen!



What makes this program unique at Tec

- Cutting-edge laboratories and national and international research stays.
- Support and follow-up for biotech entrepreneurship, with success stories such as Savefruit, Xilinat, and Biointellectus.
- International agreements and dual degrees with Essex, Rennes, Queensland, and Macquarie.
- A transdisciplinary approach with an ethical, sustainable, and global vision to tackle social, industrial, and environmental challenges.



Your career paths are endless. Here are some:

- Food, pharmaceutical, cosmetic, and agro-food industries; health; bioinformatics; sustainable agriculture; environment; bioremediation; bioplastics; biomaterials; textiles; R&D centers; technology transfer; regulatory affairs; biosafety.



Skills you'll develop

- You'll design efficient and sustainable biotechnological processes.
- You'll apply molecular tools with ethical and regulatory criteria.
- You'll innovate products and services with social impact.
- You'll build sustainable visions alongside multidisciplinary teams.



Imagine this:

Developing a sustainable nanofertilizer. Designing biofactories that produce therapeutic proteins. Creating a biotech startup with impact in health or the environment.

At Tec, that future starts today.

You'll be part of something bigger

- Outstanding cases such as Zymetec and Novasign, driven by EXATEC talent.
- International research stays at universities like Cornell, EPFL, UCL, Columbia, Berkeley, and Harvard.
- International competitions: we are globally recognized for our results.
- Check which campuses offer this program at tec.mx

The voices of those already making an impact

- **Ricardo Valles Mendoza** – CEO of Savefruit, 2nd place globally at Startup World Cup 2023.
- **Ana Elisa Garay** – Leader in pharmaceutical diagnostics at Zoetis and former executive at BD and Roche.

A glimpse of how our community creates real impact.

Your ideas are already imagining new solutions. Here, you learn how to develop them.

Take the first step toward biotechnology that transforms lives.

Tecnológico de Monterrey

Curriculum
B.S. in Biotechnology 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
- Fundamentals of Organic Compounds
- Biomolecules and Metabolism
- Differential Equations
- Numerical Methods
- Fundamentals of Microbiology and Cell Biology
- Mass and Energy Balances
- Tec Week Elective IV
- Tec Week Elective V

SEMESTER 4
- Elective Course Leadership, Entrepreneurship and Innovation
- Experimental Design and Analysis in Bioprocesses
- Enzymology and Biocatalysis
- Molecular Biology and Genetic Engineering
- In Vitro Culture
- Biotechnological Products
- Disciplinary Tec week
- Tec Week Elective VI

SEMESTER 5
- Elective Course Ethics and Citizenship
- Transport Phenomena in Bioprocess
- Genetics and Molecular Diagnostics
- Synthesis of Biofactories
- Bioprocess Analysis
- Tec Week: Professional Life Planning
- Tec Week Elective VII

SEMESTER 6
- Metabolic Engineering and Omic Technologies
- Bioreactors
- Bioseparations
- Bioentrepreneurship Design and Evaluation
- Applications in Bioinformatics
- Tec Week Elective VIII
- Tec Week Elective IX

SEMESTER 7
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

SEMESTER 8
- Elective Multidisciplinary Professional
- Biotechnology Innovation Project
- 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.

BACHELOR

This program is also offered in English as:
B.S. in Biotechnology Engineering

Your future in BIOTECHNOLOGY ENGINEERING starts here.

Want more info?

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

WHY NOT?

RVOE: DEC-520912