

University Degree in
MECHANICAL ENGINEERING

For thirty years it has been our firm belief that the University is a place for personal maturity and the most demanding academic preparation.

Because we believe in the mission of producing professionals with the personal and technical capacity to respond to the challenges of an ever more volatile and competitive world

Equipping them with the skills and resolve to make a positive impact on their environment and pursuing the goal of creating a better society through their professions.

To achieve this, we put you and every one of our students at the center of things, committing to a different way of teaching, inside and outside the classroom.

“Don’t pass through the university; let the university pass through you”

DANIEL SADA
Rector of UFV

WELCOME

HIGHER POLYTECHNIC SCHOOL

The Polytechnic School integrates the intellectual, the technical and the human to develop a professional profile capable of projecting new realities to build a better world through architecture, engineering or technology. Our students face major challenges that will radically transform all sectors over the coming years. That's why, in addition to technical education, we are committed to developing skills like flexibility, resilience and creativity, which are essential for adapting to a constantly changing environment. For added value, many of our university degrees are backed by major companies such as Telefónica, Microsoft, NVIDIA, IBM, SAS and Google to ensure that all our qualifications are always aligned with the latest needs of the labor market.

- ✓ **Uno de los mejores campus universitarios de Europa**
You will learn on a campus of excellence with the most cutting-edge facilities, including the best high-tech center in Europe, the Motor & Sport Institute, where you will learn with latest generation cars and virtual reality. Plus, you will also have access to project and model rooms, the Digital Manufacturing Laboratory, etc.

- ✓ **Formación humanística**
You will learn to think and create solutions that improve the lives of others, thanks to humanities subjects and social practices that will help you discover the why and wherefore of your work.

- ✓ **Formación práctica**
You will apply the concepts learned in class through real projects, academic trips, company visits, analysis of success stories, seminars with experts, business simulations, practicals with robots and more.

- ✓ **Acompañamiento y mentorías**
We have a team of specialized mentors who will help you find your vocation, develop your skills and make the most of your university experience. Guidance is the hallmark of UFV and the best impetus to help you achieve your goals.

+60
university degrees and
university dual degrees

+40
postgraduate programs

+40.000
alumni



A CAMPUS FOR LIVING THE UNIVERSITY

You will live your university experience on two large campuses. The main campus is located in Pozuelo de Alarcón, with more than 23 hectares of land, designed so that learning and the university experience are integrated and transform you as a person. The second campus, for students of some engineering courses, is located in one of the best technology centers in Europe, the Motor & Sport Institute, where you will have access to cutting-edge technology. You will also be able to participate in numerous student societies such as the Debating Society, the Business Generation Society or ADA Byron, the latter focused on programming. You can sign up for big data competitions, artificial intelligence or inter-engineering sports Olympics. The UFV campus is the perfect place to grow, create, share and, above all, to get the most out of the university. You will have access to:

- ✓ Research groups
- ✓ UFV Entrepreneurship Center
- ✓ Sports teams
- ✓ UFV Sports Center
- ✓ Volunteering and missions
- ✓ Cultural activities
- ✓ UFV Halls of Residence
- ✓ Private and public bus network
- ✓ Charging stations for cars and electric scooters

+20
societies and clubs

+1000
events per year



FACILITIES

You will learn in a practical way at cutting-edge facilities that have specialized classrooms and in a unique center with more than 12,000 m2 focused on technology, robotics and innovation.

- ✓ Business Simulation Center
- ✓ Innovation Center
- ✓ Motor & Sport Institute (robots, virtual reality, electric vehicles, 3D printers, wind tunnel, engine laboratories, etc.)
- ✓ Digital Manufacturing Lab (laser and vinyl cutters, sharpeners, milling machines, additive manufacturing tools, etc.)
- ✓ Project classrooms
- ✓ Model classroom
- ✓ Drawing rooms
- ✓ Computer labs
- ✓ WACOM Room
- ✓ Video games lab



Visit us through our
Virtual Tour

INTERNATIONAL EDUCATION

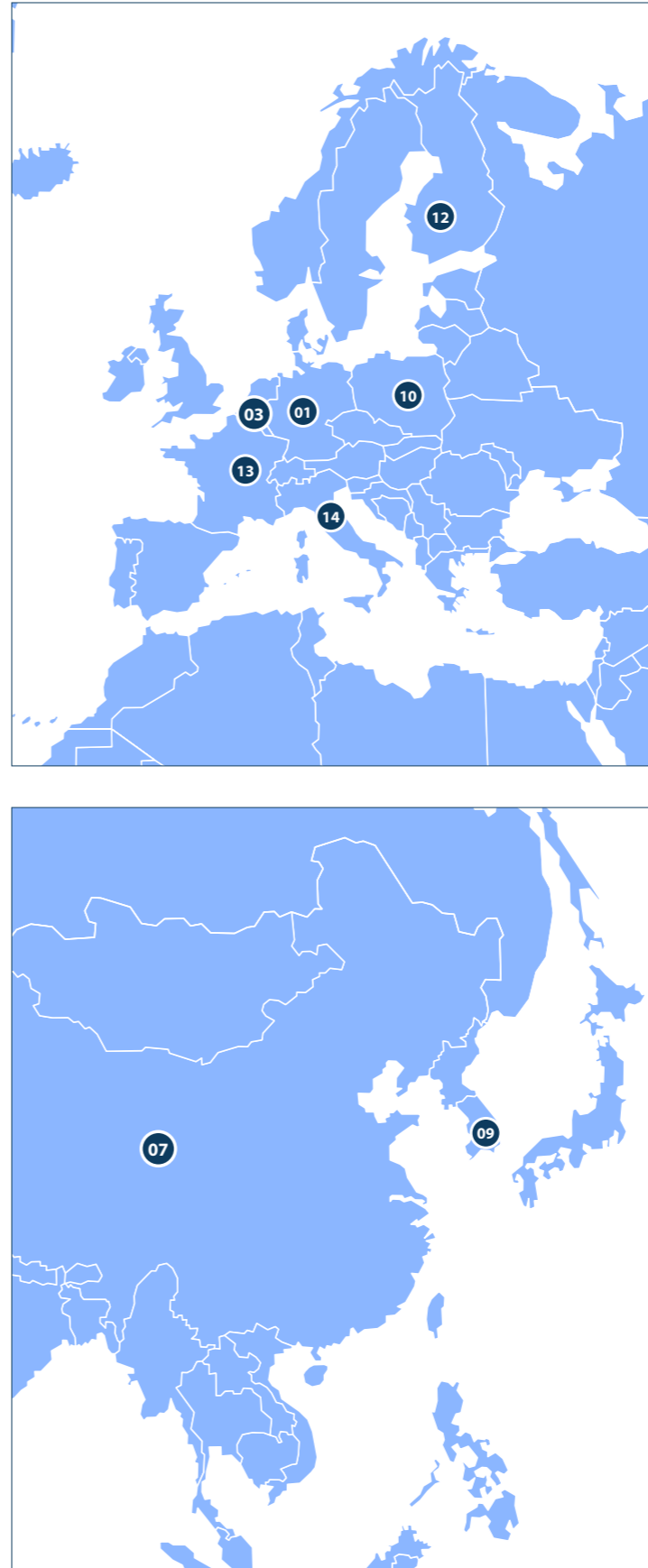
Did you know that many of our students have had the opportunity to study abroad?

Don't miss the opportunity to live a unique experience in places like the University of South Carolina (USA), the University of Seoul (South Korea) or the Technische Hochschule Ingolstadt (Germany).

“Studying in Monterrey was an incredible opportunity to immerse myself in Mexican culture. The exchange provided me with an exceptional academic environment, but what I would highlight most is the warmth of the people and how much I learned outside the classroom, from gastronomy to local traditions. “It is an experience that has enriched me both personally and professionally.”

SERGIO ALBA MASET
UFV Student University of Monterrey
(Mexico)

AGREEMENTS



01. Germany
Brandenburgische Technische Universität Cottbus - Senftenberg
Hochschule München University of Applied Sciences (HM) Osnabrück
University of Applied Sciences (OSUAS)
Technische Hochschule Ingolstadt

02. Argentina
Universidad Católica Argentina (UCA)
Universidad Católica de Salta (UCASAL)
Universidad Católica de Santa Fe
Universidad del Salvador (USAL)

03. Belgium
Thomas More Mechelen - Antwerpen
Université Libre de Bruxelles (ULB)

04. Brazil
Universidade de Fortaleza
Universidade Do Sul De Santa Catarina (UNISUL)

05. Canada
Algoma University
Wilfrid Laurier University

06. Chile
Universidad Finis Terrae (UFT)
Universidad Mayor

07. China
University of Saint Joseph (USJ)
08. Colombia
Pontificia Universidad Javeriana
Universidad Católica de Colombia

09. South Korea
Seoul National University of Science and Technology (SEOULTECH)
University of Seoul

10. Slovenia
University of Ljubljana

11. USA
Dakota State University (DSU)
Mercer University
Presbyterian College
University of South Carolina
University of the Incarnate Word

12. Finland
Tampere University of Applied Sciences (TAMK)

13. France
Ecole Nationale Supérieure d'Architecture de Lyon (ENSAL)
École d'architecture de la ville & des territoires à Marne-la-Vallée (ENSAVT)

14. Italy
Università degli Studi dell'Insubria
Università Gustave Eiffel (UGE)



UNIVERSITY DEGREE IN MECHANICAL ENGINEERING

The industry is in full evolution. With this official university degree, you will become a mechanical engineer working to meet the different needs of society, designing and developing equipment, systems, engines and machines, integrating technologies such as AI, robotics and IoT.

✓ **100% practical education**

From the first day, you will carry out real projects with large companies, test combustion engines, design using solid works, analyze wind tunnel aerodynamics and program industrial robots.

✓ **You will work on real projects**

You will have the opportunity to carry out real projects alongside large companies and learn about robots, combustion engines and cutting-edge technology. You will be able to take internships in companies like Talgo or Universal Robots to apply your knowledge in an industrial environment.

✓ **Innovative methodology**

You will learn how to implement systems to automate production in factories and discover how to design robotic exoskeletons and create nanomaterials. And you will achieve this through a methodology that combines theory with practice, along with the analysis of success stories and the implementation of projects and research.

✓ **Learning outside the classroom**

You need to know what is changing in different sectors and how a mechanical engineer can help in this transformation. You will visit companies, take study trips and attend conferences with experts in energy sustainability, automation and aerospace engineering

✓ **Research**

You will be able to be part of UFV research groups in areas such as sustainable transport, energy and applications, robotics, accessibility, smart cities, etc. In addition, you will be able to start your own business with Emprande UFV and prototype projects with 3D printers or CNC machines in Makers UFV.

✓ **A leading center for advanced technology in Europe**

At UFV you will train as an engineer at the Motor & Sport Institute (MSI), a unique center with an area of over 12,000 m2 dedicated to technology and innovation, the ideal place to learn among the latest generation cars, robots, engines, 3D printers and other technology.

STUDY PLAN

FIRST YEAR

- Mathematics I
- Mechanical Physics
- Electromagnetic Physics
- Fundamentals of Computer Engineering
- Introduction to Programming
- Graphic Expression
- Introduction to Business Management
- Knowledge Management and Human Resources Skills
- Basic Integration Project

THIRD YEAR

- Energy Efficiency and Sustainability
- Elasticity and Resistance of Materials I and II
- Theory of Machines and Mechanisms
- Fluid Mechanics
- Business Organization and Production Management
- Ethics and Professional Deontology
- Advanced Integration Project
- Thermal Engineering
- Combustion and Hybrid Engines

SECOND YEAR

- Mathematics II
- Chemistry for Engineering
- Electrical Engineering
- Electronics
- Automation
- Materials
- Thermodynamics
- Anthropology and Social Responsibility
- Intermediate Integration Project

FOURTH YEAR

- The Question of God in the Digital Age
- Graphic Design, Prototyping and Testing
- Design, Testing and Maintenance of Machines
- Fluid Mechanics Systems and Machines
- Industrial Structures and Constructions
- Advanced Technologies and Materials
- Manufacturing Processes, Metrology and Quality
- End of Degree Project
- Company Internships
- Elective





JOB OPPORTUNITIES

94,3%

of our students
find work after
graduating

The mechanical engineer stands out for their versatility and ability to innovate and optimize processes. Mechanical engineers are essential in areas like:

- ✓ **Design and development:** creation of mechanical components, nanotechnology, bioengineering, design of complete machinery systems, vehicles, energy, etc.
- ✓ **Automation and Industry 4.0:** implementation of automation solutions, advanced robotics and intelligent systems in industrial processes.
- ✓ **Energy and sustainability:** development of renewable energies, energy efficiency in industry and sustainability projects.
- ✓ **Aerospace and automotive:** design and improvement of aerospace component vehicles, innovation in electric and autonomous mobility.

INTERNSHIPS AND EMPLOYMENT

We have more than 5,000 agreements with companies and institutions so that you can take professional internships in Spain or abroad. An experience that will allow you to enter the job market and obtain a future employment contract, given that 85% of our students receive an offer before graduating.

+5000

agreements with national
and international companies
and institutions

ABB

CATIA

CT

EY

Gestamp

MATLAB

SIEMENS

SOLIDWORKS

UNIVERSAL ROBOTS



ASSISTANCE AND STUDY GRANTS

Our goal is for you to follow your dreams.

The UFV Study Grants Service offers an **extensive and ambitious program of scholarships and grants** designed to support students throughout their academic career and to ensure they can make the most of their university experience.

- ✓ Scholarships for 'Brilliant Academic Record'
- ✓ Scholarships for Academic Record for students from collaborating municipalities
- ✓ UFV Financial Aid
- ✓ Large family Discount
- ✓ Discounts through agreement with collaborating institutions

+30%

of our students
receive grants
or assistance



Discover all the
study grants and assistance
the UFV has to offer





NOT FOR MADRID?

No problem. Discover our Halls of Residence

The UFV campus includes the 'Colegio Mayor', the UFV Halls of Residence offering you the opportunity to take full advantage of the university experience and enjoy all the spaces available for study, work and recreation.



Get know the Colegio Mayor



WE'LL HELP YOU CHOOSE YOUR COURSE

See Our Upcoming Dates!
University Guidance Service
Don't know what to study? Finding it hard to choose between two different courses? If so, request a personal vocational orientation session and our specialized team will personally help you find yourself, your passions, discover your skills and recognize your values and choose the course the right course for you.



I want to take the Vocational Guidance Quiz!

Open Days
Attend one of our Open Days, get to know our campus and resolve all your doubts about the course that interests you with the help of the director, counselors, teachers and students.



I want to sign up for the next Open Day!



DON'T LIVE IN MADRID?
Don't worry, UFV will visit your city so you can meet us at our **Pre-university Orientation Days**

ADMISSION PROCESS

We want to get to know you, to know your motivations, your skills and any questions you may have. At the UFV, we are there for you from 'day one' through direct contact with our counsellors and team of advisors. This is a journey adapted to your needs, enabling you to take one of the most important decisions of your life.

We look forward to meeting you!

01 ADMISSIONS TEST

Admissions tests are held **every week** which include:

- ✓ Competences test
- ✓ Personal interview
- ✓ English level test

04 GRANTS

You can check the **time schedules and types of scholarships** on our website. Applications must be made through the portal.

02 RESULTS

Although your counsellor will contact you, you can also check the result of your admissions process in your **candidate portal**.

05 ENROLMENT

You can check the **time schedules and enrolment guidelines** when the enrolment period opens.

03 RESERVE

If you are admitted to the UFV, the next step is to reserve your place by paying the **Registration Fees** from your portal.



More information on the Admissions Process



TRAINING OPTIONS

HIGHER POLYTECHNIC SCHOOL

UNIVERSITY DEGREES

- Architecture
- Computer Engineering (Spanish, Bilingual or 100% in English)
- Industrial Systems Engineering (Spanish or Bilingual)
- Mathematical Engineering
- Connected Industry Engineering
- Mechanical Engineering (Spanish or 100% in English)
- Artificial Intelligence Systems Engineering
- Engineering Physics

UIVERSITY DUAL DEGREES

- Data and Business Analytics and Computer Engineering (Bilingual)
- Mathematical Engineering + Computer Engineering (Bilingual)
- Industrial Systems Engineering + Connected Industry Engineering

COMPLETE YOUR TRAINING WITH A POSTGRADUATE QUALIFICATION

- University Master's Degree in Industrial Engineering
- University Master's Degree in Pharmaceutical Engineering
- University Master's Degree in Continuing Education in Technology and Processes for the Pharmaceutical and Biopharmaceutical Industry
- University Master's Degree in Continuing Education in Innovation and Global Mobility
- Strategy Expert Course in Pharmaceutical Engineering

ufv.es

+34 91 324 80 64

@ufvmadrid

Ctra. Pozuelo - Majadahonda. Km. 1,800
28223 Pozuelo de Alarcón (Madrid)

*All rights reserved.
This is not a contractual document.*



October 2024