Université Paris-Saclay

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Génie mécanique et productique

BUT (University technology degree)

Language(s) of instruction

French

The **Bachelor of Mechanical and Production Engineering (BUT GMP)** is a three-year program that offers specialized training in the design, manufacturing, industrial management, and optimization of mechanical and multi-technology systems. It addresses current technological, industrial, societal, and environmental challenges. The program prepares highly versatile technicians and serves as a pathway to engineering schools, aligning with the evolving needs of tomorrow’s industry.

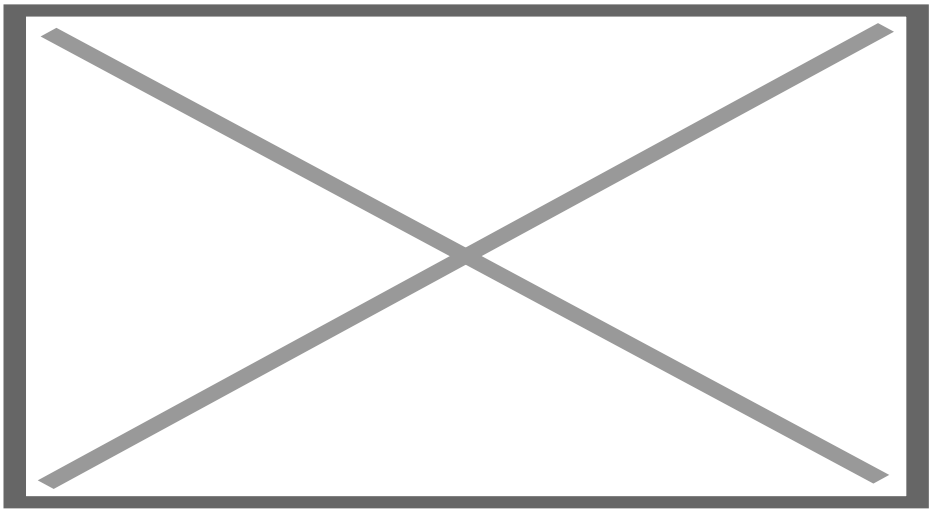
The program is structured over three years (six semesters) and is equivalent to 180 ECTS credits, granting this national degree the academic level of a Bachelor's (Licence). It combines theoretical coursework, practical lab sessions, project-based learning, and professional immersion in industry. The curriculum follows the national program for the Mechanical and Production Engineering specialization, which is common to all University Institutes of Technology (IUTs) in France.

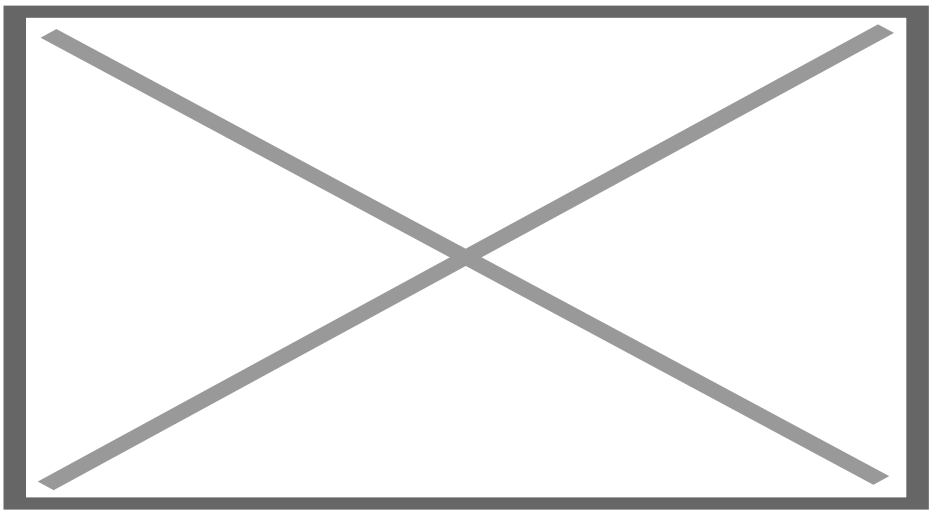
Out of the 2,600 total hours of instruction over three years, at least 50% are dedicated to hands-on training and real-world professional situations.

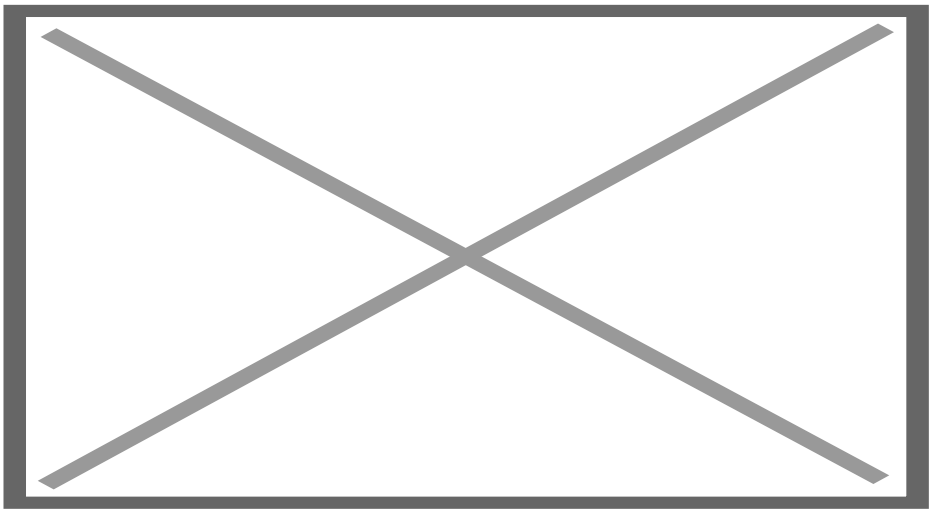
The program is available in a full-time format, which includes a 12-week internship in the second year and a 14-week internship in the third year.

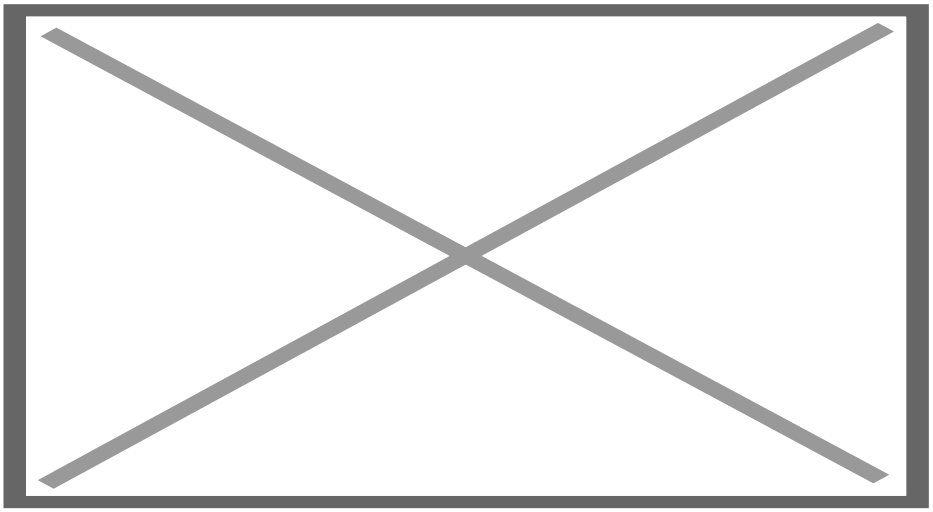
It is also available through a work-study pathway. At the IUT of Cachan, this alternating school/work format is open from the second year (BUT2 and BUT3) or from the third year only (BUT3).

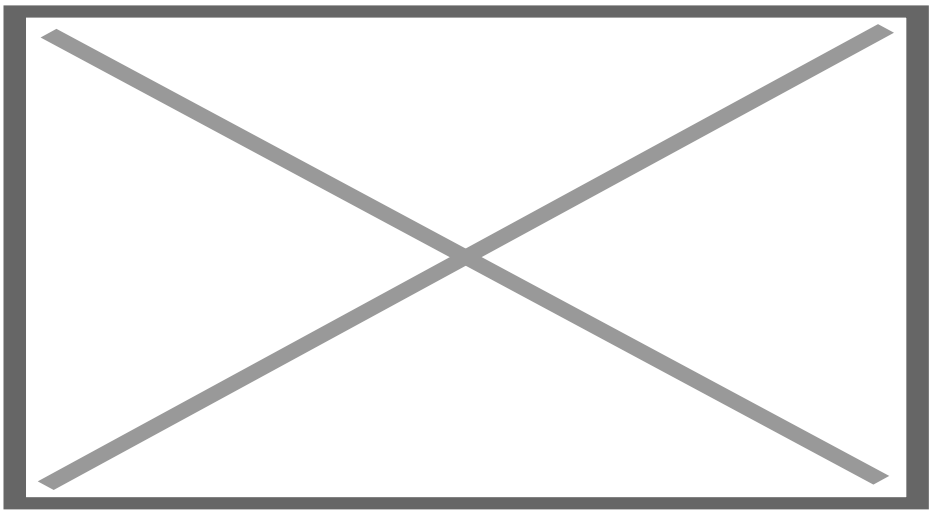
Télécharger la fiche détaillée











Information

- List of Pathways
- Overview
- Application requirements

Liste parcours

BUT 1

BUT1 Génie mécanique et productique

Add to Compare

BUT 2

BUT2 Génie mécanique et productique : Innovation pour l'Industrie (II)

Add to Compare

BUT2 Génie mécanique et productique : Management de Process Industriel (MPI)

Add to Compare

BUT2 Génie mécanique et productique : Simulation Numérique et Réalité Virtuelle (SNRV)

Add to Compare

BUT 3

BUT3 Génie Mécanique et productique : Innovation pour l'Industrie

Add to Compare

BUT3 Génie Mécanique et productique : Management de process industriel

Add to Compare

BUT3 Génie Mécanique et productique : Simulation numérique et réalité virtuelle

Add to Compare

Présentation

Skills

Future technicians and engineering assistants are trained to design, industrialize, and oversee mechanical and multi-technology products or systems within an industrial context.

The program develops strong skills in key areas of mechanical engineering: mechanical design, material selection, manufacturing methods, quality control, robotics, and industrial organization and management. Students acquire a comprehensive understanding of the product lifecycle—from needs analysis to production and optimization of industrial processes.

The BUT GMP prepares students to:

- Analyze and respond to industrial needs by designing innovative, sustainable, and tailored mechanical solutions;
- Master computer-aided design (CAD) tools and mechanical simulation software;
- Select and implement appropriate manufacturing processes, considering technical, economic, and environmental constraints;
- Organize, manage, and optimize industrial production while meeting quality, safety, and deadline requirements.

  Among the five national specializations ("parcours"), the IUT of Cachan offers three to provide additional focus:

- "Numerical Simulation and Virtual Reality", including digital twins and industrial robotics;
- "Industrial Process Management", focusing on industrial organization and control;
- "Innovation for Industry", dedicated to developing complex design and manufacturing methods and processes.

  Strongly connected to the professional world through supervised projects, internships, and the option of work-study training, graduates of the BUT GMP also develop a broad set of soft skills and professional attitudes, including teamwork, autonomy, adaptability, and effective communication in both English and French.

  These competencies make BUT GMP graduates versatile and operational professionals, ready to meet the challenges of contemporary industry both in France and internationally.

Learning outcome targets

The **Bachelor in Mechanical and Production Engineering (BUT GMP)** aims to train professionals over three years who are capable of designing, developing, industrializing, and optimizing mechanical products or systems to meet the evolving needs of industry sectors and professions.

Key sectors include aerospace, transportation (automotive, rail, naval), precision mechanics and tooling, robotics, and transformation industries (plastics, metallurgy, etc.). Thanks to the program’s versatility, graduates can also pursue careers in diverse fields such as energy, special machinery, construction and metal structures, agri-food, and medical industries.

This comprehensive program provides students with a global understanding of mechanical and multi-technology systems, industrial processes, and the technical, economic, and organizational aspects specific to industry. Students gain the skills to manage the full product lifecycle — from needs analysis and design to production implementation and continuous improvement.

The BUT GMP program is designed to continuously adapt to contemporary industrial challenges: technological innovation, industrial performance, energy transition, digitalization, and sustainable development. It prepares students to operate effectively in various industrial contexts, promoting an integrated approach to design, industrialization, and production functions.

Built on a practical, project-based, and internship-driven pedagogy, the program equips graduates with strong operational capabilities, adaptability, and the ability to grow within industrial environments.

In addition, the BUT GMP program serves a dual purpose: enabling direct entry into mechanical and production-related careers, while also providing a solid academic foundation for further studies in engineering schools or master's programs.

Débouchés

Career prospects

CAD Designer Technician
Integration Technician
Manufacturing Process (CAM) Technician
Production Technician
Quality Control / Inspection Technician
Quality Process Technician
Mechanical Testing Technician
Product Development Technician

Further Study Opportunities

Master’s Degree in Engineering or Mechanical Engineering
Multidisciplinary Engineering School
Mechanical Engineering School
Engineering School specialized in Industrial Engineering or Industrial Logistics
Generalist Engineering School through Apprenticeship
Engineering Apprenticeship Program in Mechanical Engineering and Production
Engineering Apprenticeship Program in Materials and Mechanical Engineering

Engineering Apprenticeship Program in Industrial Engineering or Industrial Logistics
Engineering Apprenticeship Program in Energy Engineering
Engineering Apprenticeship Program in Sustainable Production Systems
Admission

Target audience

The **Bachelor in Mechanical and Production Engineering (BUT GMP)** is open to students holding a Technological Baccalaureate (STI2D) or a General Baccalaureate. Recommended subject specialties include Mathematics, Digital and Computer Science (NSI), Engineering Sciences (SI), and Physics-Chemistry, though other subject combinations are also welcome.

Students who choose the BUT GMP should have a genuine interest in industry and industrial careers. They should be comfortable working in a digital and hands-on environment with industrial tools and equipment. Beyond scientific, technological, and experimental curiosity, teamwork skills are essential, as many learning activities are based on group projects and practical work.

Finally, motivation, commitment, and good organizational skills are key to succeeding in this demanding and professionally oriented program.

http://institut-pascal.universite-paris-saclay.fr/formation/but/genie-mecanique-et-productique