AUTOMOTIVE ENGINEERING PROGRAM AT UFSC JOINVILLE FACT SHEET



The Automotive Engineering program at the Federal University of Santa Catarina (UFSC) Joinville is designed to equip students for careers in the automotive industry by providing a foundation in mechanical engineering along with specialized knowledge in automotive systems. The program integrates both theoretical education and hands-on experience, offering practical projects and fostering collaboration with industry leaders, ensuring that students are well-prepared for the demands of the automotive sector.

Duration: Full-time, typically completed in 5 years.

PROGRAM OBJECTIVE

The program aims to train skilled automotive engineers capable of working across diverse areas of the industry, including design, development, production, and management, with a strong emphasis on innovation and sustainability.

The curriculum includes key subjects such as

- > Vehicle Dynamics
- > Automotive Materials
- > Powertrain Systems
- > Automotive Control & Electronics
- > Manufacturing and Assembly Processes



KEY HIGHLIGHTS OF THE PROGRAM

Strong Industry Connections

The program maintains connections with leading automotive companies such as BMW, Renault, and GM, as well as other prominent companies like Schulz, WEG, Nidec, and Whirlpool Corporation. These partnerships facilitate internships and hands-on projects, ensuring that students are exposed to real-world industry challenges and have the opportunity in practical settings.

Research and Innovation Focus

UFSC Joinville is actively engaged in research areas such as sustainable mobility, electric vehicles, and advanced safety systems. The university also plays a key role in large-scale projects supported by Brazil's Rota2030 program, which provides financial backing for innovative research. These initiatives give students the opportunity to work with cutting-edge technologies and stay ahead of future trends in the industry.

Practical Learning

The program provides opportunities for hands-on learning. Students regularly take part in competitions such as SAE Formula, Baja, and Shell Eco-marathon, where they design and build functional prototypes. These experiences promote creativity, teamwork, and problem-solving skills, preparing students for real-world engineering.

International Opportunities

The program strongly encourages international collaborations, offering student exchanges through programs such as DAAD, the Emerging Leaders in the Americas Program (ELAP) in Canada, Erasmus+, and the BMW Internship in the USA. These partnerships provide students with valuable opportunities to expand their academic and professional perspectives. UFSC has over 200 partnerships with universities around the world, allowing students from both institutions to participate in exchange programs tuition-free.

KEY INFRASTRUCTURE COMPONENTS

• Laboratory of Mechanical Systems and Powertrain Engineering

The facilities are equipped for work on automotive components, vehicle dynamics, and mechanical testing.



Laboratory of Electronics and Automation

Labs dedicated to automation systems, and mechatronics, focused on developing solutions such as autonomous driving.

• Laboratory of Materials and Manufacturing

Research in materials science, manufacturing techniques, and production processes provides students with opportunities to explore materials and advanced production methods.

• Laboratory of Prototyping and Fabrication Workshops

The campus is equipped with workshops that provide students with the resources to design, prototype, and test vehicles and components, enabling them to work on practical projects and apply their theoretical knowledge.



• Library and Study Spaces

The campus offers comprehensive library services, providing access to a wide range of academic resources, including journals, databases, and textbooks.



GRADUATE PROGRAM OPPORTUNITIES

Students in the Automotive Engineering program can pursue Master's or Doctoral degrees through the Postgraduate Program at UFSC Joinville. This program emphasizes advanced research and provides opportunities for students to participate in projects involving fluid mechanics, thermodynamics, mechanical systems, and automotive innovation.

FEDERAL UNIVERSITY OF SANTA CATARINA UFSC JOINVILLE

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