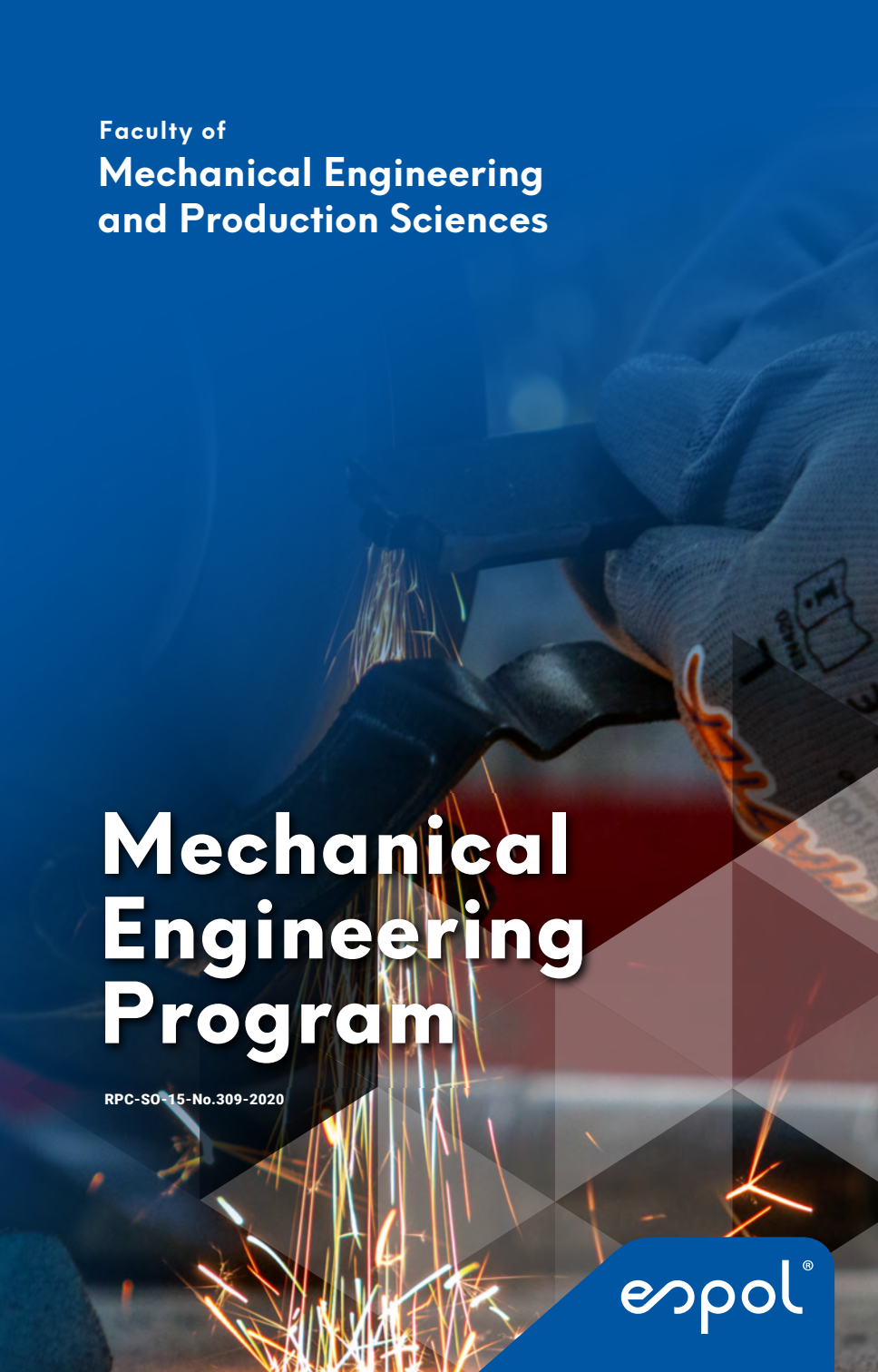
Faculty of
Mechanical Engineering
and Production Sciences



Mechanical Engineering Program

RPC-SO-15-No.309-2020

espol®

Bachelor of

Science in Mechanical Engineering

Applicant Profile

Curious, honest, reflective, analytical, tenacious, entrepreneurial, supportive students with basic knowledge in physics, chemistry, and mathematics. Willing to work under pressure both independently and as part of interdisciplinary collaborative groups.

Professional Skills

After 4 and a half years of study, you will be able to:

- Design a mechanical or thermal system, component, or process that meets specific needs, considering global and sustainability aspects.
- Solve complex engineering problems through the application of engineering, science, and mathematics principles.
- Analyze and interpret experimental results to facilitate engineering judgment in the optimization of designs, systems, or processes.
- Manage installations/assemblies, operation, and maintenance of machinery, industrial plants, climate control systems, and energy generation systems.

Employability

You can practice your profession in any field involving mechanical and thermal systems. You will be able to design, evaluate, install, or maintain machines and mechanical and thermal systems.

Additionally, you may perform administrative and executive functions at different business levels, both as an employee and in independent professional practice through entrepreneurial activities.

Curriculum Structure

LEVEL 100 - I	SINGLE VARIABLE CALCULUS	PHYSICS: MECHANICS	GENERAL CHEMISTRY
	PROBLEM SOLVING	ARTS, SPORTS AND LANGUAGES ELECTIVE COURSES	ENGLISH I
LEVEL 100 - II	LINEAR ALGEBRA	VECTOR CALCULUS	PHYSICS: ELECTRICITY AND MAGNETISM
	INTRODUCTION TO MECHANICAL ENGINEERING	ENGINEERING DRAWING	ENGLISH II
LEVEL 200 - I	PROGRAMMING FUNDAMENTALS	DIFFERENTIAL EQUATIONS	COMMUNICATION
	MATERIALS SCIENCE AND ENGINEERING	MECHANICAL WORKSHOP	ENGLISH III
LEVEL 200 - II	STATISTICS	ADVANCED MATHEMATICS	THERMODYNAMICS
	STATICS	HUMANITIES ELECTIVE COURSES	ENGLISH IV
LEVEL 300 - I	ENTREPRENEURSHIP AND INNOVATION	FLUID MECHANICS	SOLID MECHANICS
	DYNAMICS	ENGLISH V	

LEVEL 300 - II

- SUSTAINABILITY SCIENCE
- BASIC ELECTRICITY
- HEAT TRANSFER
- MECHANICAL DESIGN
- MECHANICS OF MACHINERY

LEVEL 400 - I

- ELECTRONICS
- TURBOMACHINERY AND POWER PLANTS
- MECHANICAL SYSTEMS DESIGN
- INDUSTRIAL MAINTENANCE
- MACHINING PROCESSES
- COMMUNITY SERVICE INTERNSHIPS

LEVEL 400 - II

- INSTRUMENTATION
- THERMOFLUIDS SYSTEMS DESIGN
- INDUSTRIAL PROJECTS
- APPLIED CONTROL SYSTEMS
- MANUFACTURING PROCESSES
- SELECTED ELECTIVE COURSE

LEVEL 500 - I

- MECHANICAL ENGINEERING CAPSTONE COURSE
- SELECTED ELECTIVE COURSE
- PRE-PROFESSIONAL BUSINESS INTERNSHIPS

By the way...

Mechanical Engineers work in virtually all industries. It is considered a multifaceted and essential profession in areas such as design, production, manufacturing, and maintenance.

International Relations

ESPOL, through its Office of International Relations, promotes and develops links with cooperation organizations and academic and research institutions worldwide. These connections generate mobility opportunities for the entire polytechnic community and contribute to the excellence that characterizes us.

More than 165 agreements allow our students to undertake stays abroad, whether semester or year-long exchanges, pre-professional practices, research internships, and participation in congresses, competitions, and other academic activities.

106
universities
worldwide

Accredited Program

ABET Engineering Accreditation Commission

European Accreditation of Engineering Programmes EUR-ACE®

Did you know?

A Mechanical Engineer provides solutions related to the design of components, mechanical systems, thermal and hydraulic systems, and manufacturing processes.

They manage the installation and maintenance of machinery, industrial plants, climate control systems, and energy generation systems.

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