

Master in Automated Production Systems

Introduction

The graduates of programs related to the mechanical and electromechanical interested in exploring the design of automated production, may enter the Master in this area of knowledge. Those who look for the possibility of delving into this field, will be able to evaluate production operations, suggest automation alternatives to these processes, implement appropriate projects in the feasibility, calculation, design, equipment selection, installation, commissioning and operation stage. In addition to design, evaluate, control and consult projects in the fields related to automated production systems.

General Objective

To train professionals who can work in the field of automated production, and to participate actively and with scientific criteria, from the field, in the development of industry and the community at large.

Occupational Profile

Management, execution, monitoring and evaluation of research in the area of automated production systems using mechanical, electromechanical, electro-hydraulic, electro pneumatic and fluidic.

Evaluation of operations or production processes, suggest alternatives of automation and implement them in the feasibility, calculation, design, equipment selection, installation, commissioning and operation stage.

Design, implementation, evaluation, control, guidance, supervision and consultancy projects in the fields related to automated production systems.

Research Groups

- Instrumentation and Process Control
- Manufacturing Processes and Machine Design
- Fluid Power Systems

Laboratories

Physical and Technical Resources

The Master in Automated Production Systems has the facilities of the Mechanical Engineering program:

- Fluids and hydraulic machines Laboratory

- Strength of Materials Laboratory
- Metallography Laboratory
- Projects Laboratory
- Machine Tool Workshop
- Thermal Laboratory
- Manufacturing Laboratory
- Dynamic systems and control Laboratory
- Electrohydraulic and Electropneumatic Systems Laboratory
- PLCs Laboratory.
- Computers Room

Software

Electro pneumatic Fluidsim v 4.2, Electro Hydraulic Fluidsim v 4.2, Goldfire, Algor, Borland C + +, Matlab, Labview, AutoCAD, Working Model 2D and 3D, Solidworks, Mechanical Desktop, Mastercam, Internet among others.

Faculty Services

Research

Research Groups

- Center for Studies in Welding and Nondestructive Testing, CECEND
- Energy Management, Genergetica
- Instrumentation and Process Control
- Advanced Materials. GIMAV – UTP
- Manufacturing Processes and Machine Design
- Power fluid and control Systems
- Heat and Mechanical Power Systems

Startup Research

- Design of composite materials, DIMACO
- Non-destructive testing
- Research in corrosion and protection

Laboratories

- Fluids and Hydraulic Systems Laboratory
- Thermal Sciences Laboratory
- Strength of Materials Laboratory
- Corrosion Laboratory
- Machine Tools Laboratory
- Metallography Laboratory

- Dimensional Metrology Laboratory; accredited by the Superintendence of Industry and Commerce November 2008
- Air Conditioning Laboratory; accreditation in process

Agreements

- Double Degree Agreement with the National Engineering School in Metz France (ENIM), January 23, 2008
- Secretary of Mines and Energy, Ecopetrol and Asocaña, UTP Biofuels Research Project E-12 E-15 E-20, November 2008.
- Colombian Association of Air Conditioning (ACAIRE)
- Sena Colombo-German Welding Sector Roundtable
- Agreement Comercializadora Santander - UTP 2009, includes the development of research in materials and appliances under reverse engineering
- Inter agency agreement Manizales Skyline - UTP 2011, research processes and optimization of the processes of non-destructive testing of materials in preventive and predictive maintenance.

Fuente:

<http://www2.utp.edu.co/english/masters/167/master-in-automated-production-systems>



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