

# Opening for Faculty Position - Department of Materials Engineering of the Lorena Engineering School of the University of São Paulo (EDITAL ATAc/EEL/USP – 19/2023)

The Dean of the Lorena Engineering School (EEL) of the University of São Paulo (USP) announces the opening call for the faculty position (full-time), specialty “Automation and Control”.

Briefly, the position requires a commitment to teaching and extension activities and the ability to conduct independent research. Interested applicants should hold a Ph.D. granted or recognized by USP. Applications will be accepted between July 7<sup>th</sup>, 2023, at 8 a.m. to October 4<sup>th</sup> 2023, at 4 p.m. (GMT-3). The entry-level monthly salary (MS-3.1 level) is R\$ 14.761,10 plus benefits. The public exam will be held in Portuguese language and covers the following program:

1. Transfer function; open loop and closed loop control; stability; geometric locus of roots; proportional, integral, and derivative controls.
2. Fundamentals of Robotics; Supervisory systems; Internet of Things (IoT).
3. Programmable Logic Controllers; Sensors and actuators; Industry 4.0.
4. Numerical bases; logical functions; Boolean algebra; combinatorial circuits; flipflops; counters; sequential circuits.
5. Microprocessors; microcontrollers; communication interfaces.
6. Ohm's law; Kirchhoff's laws; methods of circuit analysis and theorems.
7. Capacitors and inductors; first and second order circuits; resonance; passive filters.
8. Semiconductor devices: diodes, Bipolar Junction Transistor (BJT) and Field Effect Transistors (FET or MOSFET).
9. Small signal amplifiers; voltage rectifier circuits; voltage regulation; power supplies.
10. Operational amplifiers; adder, integrator and differentiator circuits; active filters.

The entire application process - from the inscription to the result - will be ruled by the Brazilian constitutional principles, notably that of impersonality, as well as by the Statute and General Regulations of the University of São Paulo (USP) and by the Regulations of the EEL-USP.

The public call is available in Portuguese language at <https://uspdigital.usp.br/gr/admissao>, where the applications must be submitted to by the deadline informed above. Additional information and regulations relevant about this opening call can be obtained from the e-mail: [sacc@eel.usp.br](mailto:sacc@eel.usp.br).