

Choose Advancement With Our

# WORKING B.A.S.



Bachelor of Applied Science in

# AUTOMATION AND CONTROLS TECHNOLOGY



# Discover Your FUTURE U.

The Bachelor of Applied Science in Automation and Controls Technology offered by Centenary University School of Business, Media & Writing opens the doors to dynamic careers in the rapidly growing field of automation and control systems. This program prepares students for entry-level positions or further study across various industries that rely on automation and control technologies, such as manufacturing, energy, and transportation. Possible career paths include:

- Automation Technician
- Control System Designer
- Process Control Engineer
- PLC Programmer
- Industrial Systems Integrator
- Robotics Technician
- Instrumentation and Engineer



The Bachelor of Applied Science in Automation and Controls Technology degree is designed with two primary goals:

- **To equip students with hands-on technical skills in automation, PLC programming, and control systems.**
- **To ensure students stay ahead of evolving technologies and are prepared to meet industry needs.**

In this program, students will explore modern automation challenges and learn to design, implement, and troubleshoot control systems used in industries. Through practical lab-based learning, students gain critical skills in programming programmable logic controllers (PLCs), integrating sensors and actuators, and operating automated industrial machinery.

As automation continues to expand with the rise of Industry 4.0, the course Advanced Automation Techniques covers essential topics such as integrating sensors, IoT devices, and using machine learning for predictive maintenance in automated environments. Students also learn to perform system diagnostics and fine-tune control systems to ensure high efficiency and reliability.

Additionally, students will acquire vital knowledge in human-machine interfaces (HMI) and supervisory control and data acquisition (SCADA) systems to monitor and control complex industrial processes.



### Student Outcomes/Benefits

Upon completing the Bachelor's Degree in Automation and Controls Engineering at Centenary University, students will have mastered core competencies in programming, industrial measurements, control system components, and the use of PLC and SCADA systems. They will be prepared to design, implement, and maintain automation systems, ensuring efficient and safe operation in industrial environments. Additionally, graduates will possess strong troubleshooting skills, making them valuable assets in optimizing production processes and contributing to innovations in smart manufacturing.

### Hands-On Learning

The Bachelor of Applied Science in Automation and Controls Technology degree at Centenary University emphasizes practical skills that are directly applicable to today's high-tech industries. Through immersive labs and real-world scenarios, students will gain hands-on experience with:

- **Programmable Logic Controllers (PLCs):** Learn how to program, configure, and troubleshoot PLCs, the backbone of industrial automation.
- **Human-Machine Interface (HMI) Design:** Understand how to create effective user interfaces for controlling industrial processes.
- **Sensors and Actuators:** Learn how to select, integrate, and maintain sensors and actuators in automated systems.
- **SCADA Systems:** Gain insights into the monitoring and control of industrial systems through SCADA.
- **Networked Industrial Systems:** Learn how to connect and control industrial equipment using industry-standard protocols and industrial Ethernet.



## Why Study Automation and Controls at Centenary University?

- **Industry-experienced Faculty:** Automation and control courses are taught by faculty with real-world experience in industrial automation and control systems, ensuring students are prepared for the job market.
- **Internships & Real-World Learning:** Automation and control majors are encouraged to pursue internships in their junior or senior years. These internships provide practical experience and often lead to job offers upon graduation.
- **Hands-on Learning & Labs:** The program focuses on practical skills through state-of-the-art labs where students work with PLCs, sensors, actuators, and industrial systems to simulate real-world conditions.
- **Advanced Certifications:** Our program prepares students for industry-standard certifications, giving them options for further career growth in automation, control systems, and robotics.

## Did you know?

Bachelor of Applied Science in Automation and Controls Technology is one of the fastest-growing fields in the global industrial sector. The industrial automation market was valued at \$172.26 billion in 2022, with a projected growth rate of 10.5% annually until 2030. As industries integrate advanced technologies like robotics, AI, and IoT, the demand for skilled automation professionals continues to soar. Graduates entering this field can expect exciting opportunities across multiple sectors, from manufacturing to tech innovation

## Career Path

Graduates of the Automation and Controls program are well-equipped for high-demand roles such as Automation Engineer, Control Systems Engineer, Robotics Engineer, and Industrial Systems Manager. With automation technology increasingly vital in sectors like manufacturing, automotive, and aerospace, there is a robust demand for professionals skilled in systems integration, PLC programming, and process optimization. The job market for automation engineers is projected to grow by 10% from 2024 to 2030, with competitive salaries and diverse opportunities across industries

# Internships



Centenary University's Bachelor of Applied Science in Automation and Controls Technology program offers numerous internship opportunities with local and regional industries. Students are able to work alongside experienced professionals in real-world settings, applying classroom knowledge to solve practical problems. These internships not only provide valuable hands-on experience but also pave the way for potential full-time employment after graduation.

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