

INTERESTING FACT

On the most basic level, human beings and robots are made up of very similar components?

Just like humans, robots have **arms, hands, and muscles**. The **arms** and **hands** are the manipulators and end effectors of a robot, respectively. They work in some way to manipulate an object: pick up, modify, destroy or otherwise have an effect.

The actuators are the **muscles** of a robot, the part that convert stored energy into movement.

Think that's interesting? Learn more about robotics and automation when you enroll in the Department of Advanced Technologies at Alcorn State University.

ROBOTICS AND AUTOMATION TECHNOLOGY

In the **Robotics and Automation** program, students learn to use computer systems to program robots, design automated systems, run databases in inventory, payroll, project planning and scheduling, and purchasing.

The program is designed to place graduates into positions as managers of technology in industry and government. The program prepares students to be technical managers so they can move through a lifelong career prepared to change technical occupations if and when needed.

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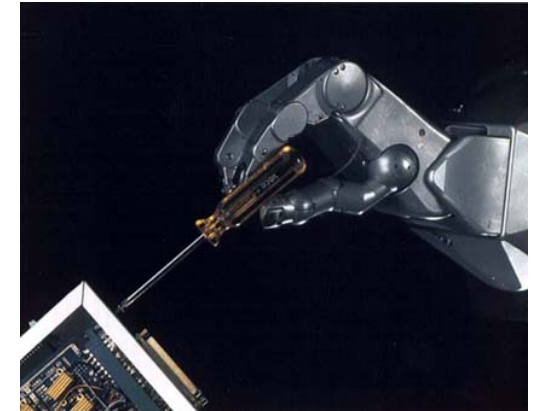
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ALCORN STATE UNIVERSITY

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THE PROGRAM

The Robotics and Automation Technology program provides students with knowledge of the applications of flexible automation equipment, the various mechanical systems used, and the electronics incorporated for their control. Students gain hands-on experience with a variety of industrial robots and automated machinery in a laboratory.

The **Robotics and Automation** program can be completed in four academic years, each year offering students a more in-depth level of understanding into the field.

THE CURRICULUM

The **Robotics and Automation** curriculum is a rigorous set of courses aimed at producing high quality professionals capable of facing challenges of the real world.

Courses offered include:

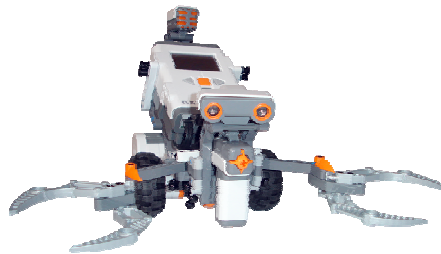
- Robotics Applications
- Technology and Engineering Analysis
- Computer Integrated Manufacturing
- Engineering and Technology C and S
- Feedback Control
- Production Planning and Control
- Principles of Technical Management
- Total Quality Management
- CAD/CAM

THE ELECTIVES

The Advanced Technologies Faculty and Advisory Council require students majoring in Robotics and Automation Technology to select electives in computer networking, management, GIS&T/remote sensing, computer science, and energy and power systems.

Acceptable electives include:

- Engineering Statistics and Random Signals
- Linear Algebra
- Mathematical Modeling
- Industrial Research Methods
- Digital Electronics and Micro-processors
- Industrial Quality Control
- Electrical Power Distribution Systems
- Advanced Robotics
- Environmental Hazards Management



ROBOTICS

CERTIFICATIONS

Two program national board certification examinations are administered to complete graduation requirements:

- **National Association of Industrial Technology (NAIT) Certified Industrial Technology (CIT) examination**
- **Society of Manufacturing Engineers Certified Manufacturing Technologist (CMfgT) examination**

DEGREES OF FREEDOM

Graduates of **Robotics and Automation Technology** find employment in industries using computers and electronics to control mechanical systems. Technologists write specifications, plan for purchasing new equipment, design, construct and implement control systems, and troubleshoot and maintain automation systems. Some graduates work as research and development technologists while others are successfully operating their own businesses using computer-controlled equipment.

FOR MORE INFORMATION ▼

Visit adtech.alcorn.edu to learn more about the Department of Advanced Technologies.