Automation Academy Syllabus

Course Details

AMT's Automation Academy is a nine-week series of coursework that will provide the foundation for a career in automation.

Course Description

The fundamentals of mechatronics, electronics, robot programming, and PLC programming are taught through lectures, labs, one-on-one, and on-the-job-training. Advanced topics may be taught in robotics, AMRs, controls, and vision. The program also addresses the soft skills necessary for a successful career.

Objectives

The Academy prepares students for placement on client assignments. Most students will be paired with experienced engineers for their first few assignments.

Resources

Academy students will receive a laptop and the required software, as well as GRS and GCCS self-study materials and access to the AMT lab.

Course Calendar

The course is a nine-week program. The course order may vary based on instructor availability.

Week 1

Topics include company onboarding, safety training, and industry overview. Introduces AMT 101, VMware, and engineering tools.

Weeks 2-5

Instructor-assisted PLC training with more than 50 labs on controls, hardware, software, communication, and more.

Week 6

AMRs and related technology are introduced. Students become familiar with driving AMRs to set up maps and communicate with a PLC using Ignition.

Week 7

Instructor-led robot programming training covering robot basics, motion, I/O, programming, and advanced techniques.

Week 8

Students begin the Capstone project. There is also self-study for GRS and GCCS followed by testing.
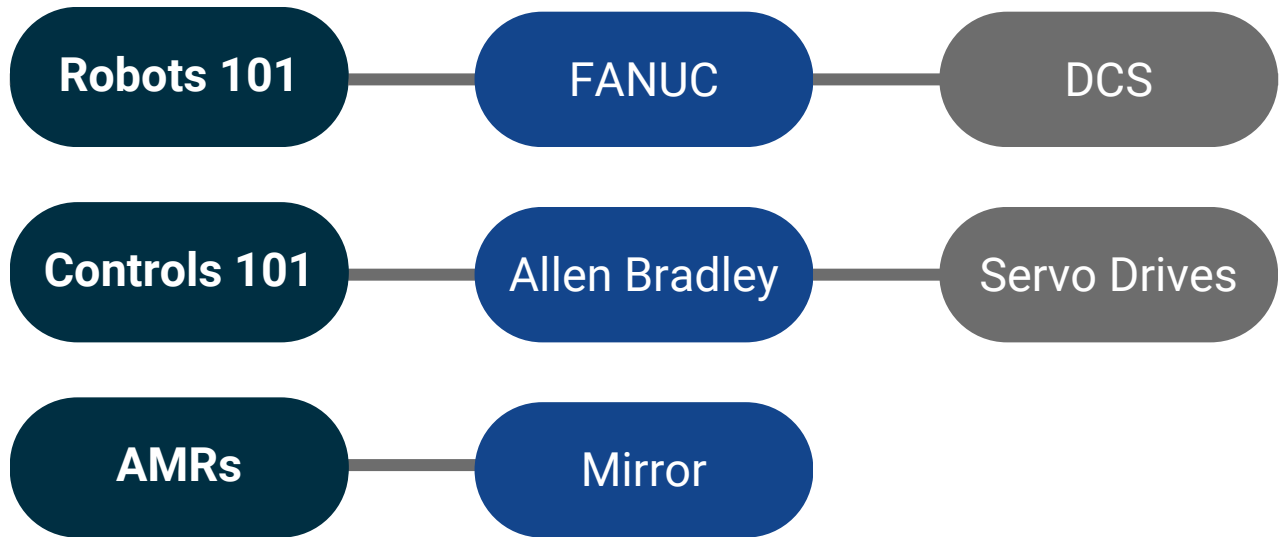
Week 9

Capstone project completion and extra training on topics of interest, including motion control, networking, HMI design, robot programming.
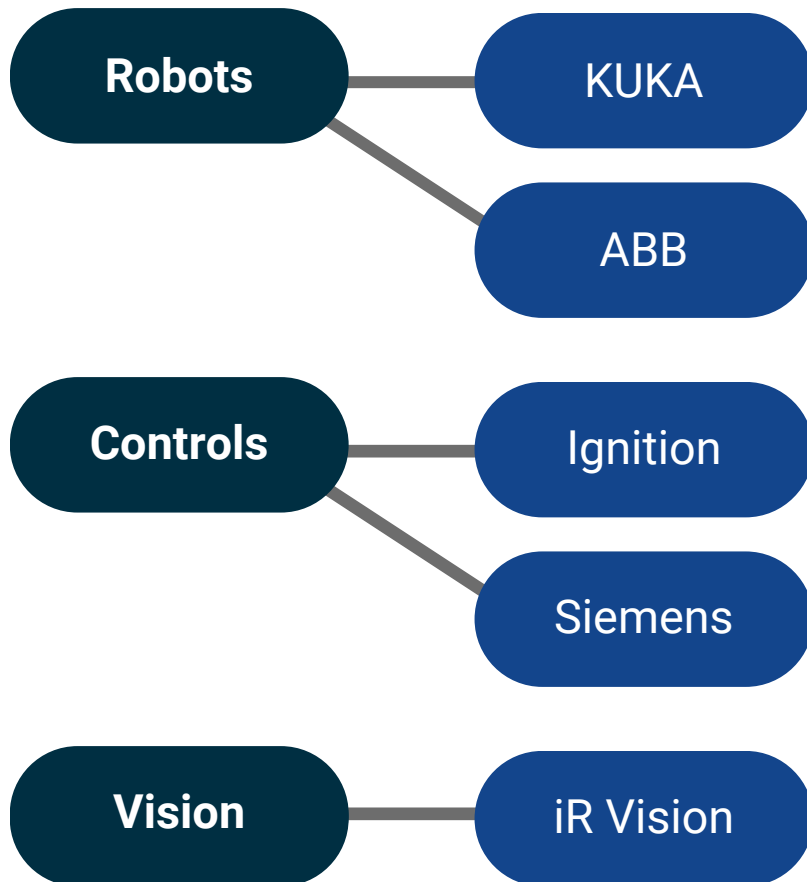
The Academy concludes with a graduation ceremony, featuring Capstone project presentations.

Orientation - AMT 101

Robots 101 — FANUC — DCS

Controls 101 — Allen Bradley — Servo Drives

AMRs — Mirror

Advanced Training

Robots — KUKA

ABB

Controls — Ignition

Siemens

Vision — iR Vision

Attendance Policy

Students are expected to arrive prior to class start time and be prepared to begin work/study at the appointed time. Students must make every effort to attend all classes. Absences must be approved by the manager.

Course Requirements

- Labs must be completed and signed off by an Academy Leader
- The Capstone project must be completed and presented to leadership
- Students must receive a passing grade on the GRS and GCCS exams

Policies and Procedures

Students are encouraged to support one another on assignments.

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