Publication date : 01/19/2024

Course : Robot FANUC R30ia / R30ib / R30ib+, operation and basic programming

Practical course - 5d - 35h00 - Ref. RQO
Price : 3030 € E.T.

Using a FANUC robot in production means knowing how to program it (TPE language) and communicate with the various peripherals. This course is ideal for anyone in charge of programming a FANUC robot, and is a prerequisite for any robot integration or trajectory optimization project.

Teaching objectives

At the end of the training, the participant will be able to:

- Use all manual movement modes and recorded trajectories
- Adapt the trajectory in the robot's programmed cycle to changes in the robot, reference points and positions
- Modifying points
- Test modifications
- Making a backup

Intended audience

Operators, set-up personnel, technicians and line operators wishing to acquire basic programming skills for a FANUC robot.

Prerequisites

Basic knowledge of FANUC robotics or have taken the course "Industrial robotics, the basics - Ref. RWR".

Practical details

Hands-on work

Numerous exercises on robot simulator + training robot to illustrate each half-day of training.

Teaching methods

This course can be delivered in-house on a real robot, subject to logistical conditions.

PARTICIPANTS

Operators, set-up personnel, technicians and line operators wishing to acquire basic programming skills for a FANUC robot.

PREREQUISITES

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TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant’s academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they’ve developed.

Course schedule

1 Safety in industrial robotics

- Personnel safety.
- Security of resources.
- Introduction to robot safety standards.
- Presentation of safety features and the emergency stop chain.
- Wiring to be carried out.

2 Manual robot movements

- Teach Pendant navigation.
- Joint/linear displacement and orientation.
- Speed management.
- Creating and configuring work references: tool and work area.

Hands-on work

Discovery of the FANUC environment on the Teach Pendant. Learning the robot's bearings and manual movement on the training robot.

3 Movement instructions, trajectory management

- Programming principle.
- Notion of position.
- Movement types (movement instructions).
- Trajectory optimization (speed and smoothing zone).
- Robot Payload data parameterization.
- Position modification.
- Movement options.
- Test and execute a trajectory in manual mode.

Hands-on work

Create multiple trajectories with optimization and trajectory modification exercises using different movement options.

4 Cycle management instructions

- Advanced functions.
- Operations on variables.
- Logical equations.
- Program structures (loops / jumps / tests).
- Call subprograms. Pass parameters.
- Multitasking.
- Communication instructions.
- Macro commands.

Hands-on work

Implementation of programming instructions through programming exercises. Synthesis exercise: complete palletization of a part.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

5 Robot maintenance elements

- Visualization and configuration of inputs/outputs.
- Data backup and restoration (file management).
- Recommendations for use and fault acknowledgement (Reset Pulse Encoder, system variables).
- Controller start-up modes.
- Interpretation of error messages.
- Rapid robot calibration.

Hands-on work

Saving and reloading the controller. Controller fault scenario enabling the learner to resolve anomalies and acknowledge faults. Quick Master robot calibration.