NOCTI
Partner Credential Blueprint

FANUC

# FANUC Certified Robot Technician Instructor

Code: 9291 / Version: 01
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## General Assessment Information

**Blueprint Contents**



**Test Type:** The FANUC Certified Robot Technician national credentialing assessment is based on FANUC's industry recognized CERT Program, inclusive of FANUC's Robot Operations with instruction provided by a FANUC certified academic instructor. Eligible participants will earn the FANUC Certified Robot Technician certification.

CIP Code

48.0501 Machine Tool Technology/Machinist

Learning that works for America CTE™

Career Cluster - Science, Technology, Engineering, and Mathematics

o*net™ in*it

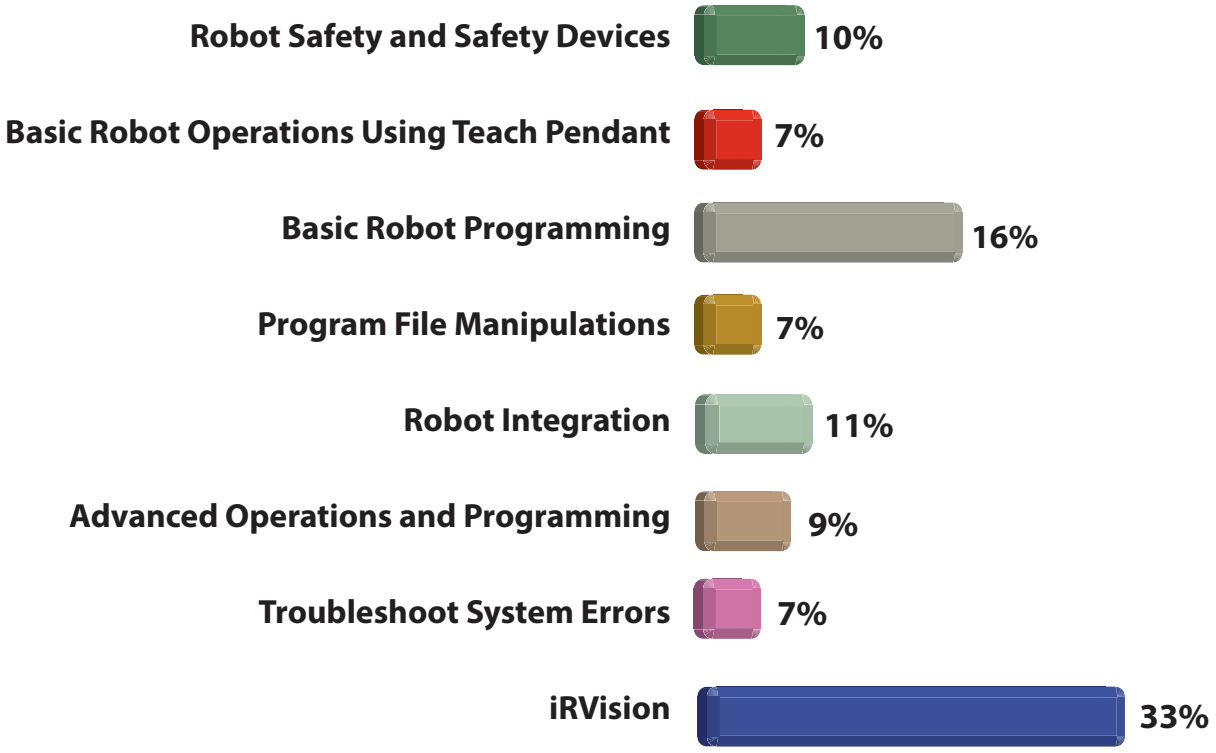
51-4011.00 - Computer-Controlled Machine Tool Operators, Metal and Plastic

# Written Assessment

Written assessments consist of questions to measure an individual's factual theoretical knowledge.

**Administration Time:** 3 hours
**Number of Questions:** 100
**Number of Sessions:** This assessment may be administered in one, two, or three sessions.

## Areas Covered



## Specific Standards and Competencies Included in this Assessment

**Robot Safety and Safety Devices**

- Demonstrate knowledge of internal robot safety devices and functions
- Demonstrate knowledge of external safety devices

**Basic Robot Operations Using Teach Pendant**

- Master and re-master robot
- Setup robot coordinate frames

**Basic Robot Programming**

- Create various robot programs
- Program non-motion logic structures

**Program File Manipulations**

- Backup individual and system files
- Restore individual and system files
- Perform image backup and restore

**Robot Integration**

- Establish communication to peripheral devices
- Configure Input/Output
- Set end-of-arm tool parameters

**Advanced Operations and Programming**

- Apply advanced program functions and options
- Program auxiliary axis
- Program advanced motion and non-motion statements

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## Specific Standards and Competencies (continued)

**Troubleshoot System Errors**

- Troubleshoot configuration errors
- Troubleshoot Dual Check Safety (DCS) errors

**iRVision**

- Identify iRVision application requirements
- Demonstrate knowledge of iRVision components
- Demonstrate knowledge of iRVision system hardware setup
- Identify iRVision processes
- Determine and establish frame locations
- Perform iRVision setup
- Perform 2D Calibration (automatic and manual)
- Perform Error Proofing process
- Apply 2D Vision process
- Program instructions for 2D Vision

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## Sample Questions

**DCS can be used to do all of the following EXCEPT**

A. define speed constraints
B. define robot inside limits
C. define robot outside limits
D. provide a safety barrier where no fencing or other safety hardware is needed

**The following Position Register Instructions will alter what coordinate?**
**PR[1,3]=1000**

A. 3=+Z
B. 1=+X
C. 1+3=+X,+Z
D. is not a valid command

**What are valid frames used for offset?**

A. Jog Frame and World Frame
B. User Frame and Tool Frame
C. Joint Frame and Tool Frame
D. Robot Frame and World Frame

**A series of inputs or outputs that the controller interprets as an integer number**

A. Group I/O
B. Digital I/O
C. Analog I/O
D. Robot I/O

**A hardware error may show because of**

A. an E-stop or overtravel has occurred
B. a broken cable or tooling
C. incorrect program data
D. unplugged robot

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## Sample Questions (continued)

**On-axis lighting**

A. provides high contrast by providing a bright field effect on shiny images or embossed images
B. provides maximum contrast on an image and can be used on large areas
C. shows surface profiles on low contrast parts
D. provides high contrast by providing a bright field effect on shiny images or embossed images

**On the TP you can view**

A. Vision Setup, Vision Log, Vision Runtime
B. Only Vision Log, Vision Runtime
C. Only Vision Setup, Vision Runtime
D. Only Vision Runtime

**What does RM-POS-ID do?**

A. pastes the lines exactly as they were copied
B. pastes the lines in reverse order
C. pastes all instructions except motion instructions in reverse order, and the motion instructions will be modified so that the path is maintained
D. pastes the lines in read only memory (ROM)

**Successful Grid Calibration requires**

A. the four big circles to be found
B. you to be in perfect focus
C. the entire grid to be found
D. the grid to be perpendicular to the camera

**An interlock barrier that prevents access to dangerous areas during the robot's cycle is**

A. safety guard
B. safety gate
C. perimeter fence
D. safety chain