OTC DAIHEN INC.
ADVANCED WELDING & ROBOTIC SYSTEMS
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Robot Programming and Operation
Course Syllabus

A.   1. Course Title: Robot Programming and Operation
       2. Course Number: OTC-116
       3. Class hours: Monday 10:00 AM to 12:00 PM, 1:00 PM to 4:30 PM
                                Tuesday & Wednesday 9:00 AM to 12:00 PM, 1:00 PM to 4:30 PM

B.   1. Prerequisites: none

C.   1. Course description: The Robotics Programming Course is a fundamental programming course that teaches students how to safely manipulate the robot through proper use of the robot controller and teach pendant. This course is designed for personnel who are responsible for set-up, programming, editing, and daily operation of Daihen FD robots.

D.   1. Textbooks (1): Instruction manual for Robot Programming and Operation

E.   1. Other required materials: none

F.   1. Course objectives
          The student shall be able to perform the following after completion of the course:
          a. Safely power up the robot and controller from a fully shutdown position
          b. Understand general robotic safety within working envelopes
          c. Know the purpose and operation of the robot controller
          d. Know the purpose and operation of the teach pendant
          e. Know the purpose and operation of the start box
          f. Move the manipulator using different coordinate systems
          g. Create and test a simulated welding program
          h. Manage programs using copy, delete, and rename commands
          i. Modify, delete, and add program steps
          j. Create and use arc commands
          k. Create and use weave commands
          l. Create programs using multi-unit
          m. Definition and theory of harmonious programming
          n. Back-up system and program data
          o. Learn basic operation of Daihen robotic cells

G. Grading: A grade of 72% or greater is required to successfully complete the course

H. Course outline
    1. Monday: Introduction, general robot overview, robot safety, and first programming concepts
    2. Tuesday: Robot programming and classroom discussion
    3. Wednesday: Robot programming, final exam, course critique, closing comments

I. Other requirements and notes
    1. Smoking is not permitted in the building. A designated outdoor smoking area is available at the back of the building.
    2. Class participation and completion of all exercises is recommended
    3. All safety rules must be followed at all times
        a. Eye protection must be worn at all times in the lab area
        b. Leather closed-tip shoes are to be worn at all times
    4. Lunch break will be 1 hour each day. Normal lunch hours will be from 12:00 PM – 1:00 PM. Students are responsible for lunch.
    5. A student who misses more than ½ day of instruction may be removed from the class at the discretion of Daihen, Inc. management and asked to return to their normal workplace.
    6. Please arrive no earlier than 15 minutes before class
    7. Proper attire is required at all times. Please do not wear clothing bearing slogans or sayings that could be offensive to others.