

Automation & Robotics



Name: _____ Rotation #: _____ Hour Code: _____ Date: _____

Name: _____

LESSON 1 - USING THE ROBOT. After reading the required pages, discuss with the instructor the ARMDROID 1000's WORK ENVELOPE before using the robot. Instructor's Initials: _____

LESSON 2 - Show the program you made in "Getting With the Program". Instructor's Initials: _____

Write the steps in Editing a Program _____

LESSON 3 - Show the instructor the program you made going over the obstacle. Instructor's Initials: _____

Why is it necessary to avoid obstacles?

LESSON 4 - Putting the Cylinder into Canister and Changing Speeds. Instructor's Initials: _____

Write two reasons why you change speeds: _____

Write paragraph of the "Environmental Impacts" on a separate sheet of paper and Staple to the worksheet.

LESSON 5 - Define synchronization as it relates to ROBOTS: _____

Part B: Finishing a block: why is there a wait point in the metal can? _____

Show the "Finishing Block Program" to the instructor. Instructor's Initials: _____

LESSON 6 - Skip "A Complete Automated System" activity for now. You can do this after completing Lesson 7 if you have time. (Yes, this is a required activity if time permits.) Instructor's Initials: _____

LESSON 7

What is "Justifying a Robotics System"(include the equation)?

Career Research

What career do your interests place you into the "physical technologies" field?

AUTOMATION & ROBOTICS NOTES

Take notes at this module!

Equipment- Ask instructor for specific equipment / materials needed in each lesson

LESSON 1 - Take notes on "A Brief History of Robotics". There are a lot of answers to the **EXERCISE** in this section. Look on the Robot for the answers to the first **EXERCISE** ("Parts of the Robot"). In the part of the lesson titled "Getting to know the Armdroid" just read the part on "Setup & Part Identification" (steps 1-7). You don't need to do what it says because as always in this lab, everything is plugged in and ready to go. **You don't need to plug anything in!**
Before you use the robot, you must have the teacher discuss the limits of the robot (work envelope). Read p. 186-7 in the Technology textbook. Read the information about the work envelope. You don't have to "DO" the Procedure. **Be careful not to push the robot to its' extremes. It costs almost \$4,000 and you don't want to break it.**

LESSON 2 - Creating a Program

Step 15 it says to go to the "Main Menu" and press 2. It should really say press 3 instead of 2. Take extra time learning how to "EDIT". Making a Program for the robot and execution of "Creating a Program". If you don't finish by the end of the period, show the teacher partial completion of the program before clean up. This way you don't have to start all over again tomorrow.

LESSON 3 - Avoiding Obstacles

Use the barrier at the module.
Show the instructor the program you made and get lesson signed off on the worksheet.

LESSON 4 - Changing Speeds

Do not mark on the grid sheet or anything else.
Put the Cylinder into a Film Canister, Speed changes.

Complete the **Environmental Impacts** paragraph on a separated sheet of paper and staple to the back of the worksheet.
Get lesson signed off on the worksheet.

LESSON 5 - Working in Sync

Answer the Synchronization question on the Worksheet.
Part A: Creating a **Wait** point - putting a cylinder into a film canister. Get a stamp on the worksheet.

Part B: Finishing a block. Get lesson signed off on the worksheet.

LESSON 6 - Capabilities and Limitations

Skip "A Complete Automated System" activity only. You can do this for extra credit after completing Lesson 7.

LESSON 7 - The Future of Robotics and Automation

Make up your own "Program" for the robot. The program will need to include: wait point, barrier, speed changes, the cylinder(s), canister(s), plastic blocks, and the metal can. Basically you need to include just about everything you learned into one program, be creative. Show to the instructor and get the lesson signed off.
Answer the worksheet question on "Justifying a Robotics System?"
Don't forget the Career research activity!

EXTRA CREDIT-Module Report, LESSON 6 (You can now do the part that you skipped from lesson 6), Word Search, Challenges, Research Report

DAILY LOG

- Fill out at the end of each day. 2 points per day

Day	Date	Lessons	Describe what you learned
Mon			
Tues			
Wed			
Thurs			
Fri			