**Lab Cleanup Guidelines**

**Objective**

The task has multiple objectives: 1) to instill good lab tidiness habits; 2) to create a safe and productive work environment; 3) to restore the lab to its condition at the beginning of the semester/year and limit the amount of resultant post-semester cleanup work needed to be performed by the RI staff.

**Description**

This task has two parts: a during-semester (Part 1) and an end-of-semester (Part 2) component, each worth 10 points.

**Part 1: During the semester (10 points)**

1. For the purposes of weekly lab cleaning, the teams are divided into two groups evenly: Groups 1 and Group 2. Each group may task-organize as desired, but weekly grades will apply to the group as a whole.
2. Clean-up criteria: floors clean, trash put out, common stations (3D printers, GPU machines, etc.) clean, team stations orderly, TA station clear, racks organized with items returned.
3. Grading

* Grading applies to Weeks 1-15, excluding the semester break week. Weekly grading will occur at a fixed time (Monday mornings) during Weeks 2-16, except the Monday after the semester break week. Week 2's check applies to Week 1's cleaning, etc.
* Numerical grades and comments on needed improvements will be given:
* Each week will be graded on a scale of 0 to 5: 5 - Excellent; 4 - Good; 3 - Tolerable; 2 - Bad; 1 - Terrible; 0 - Appalling.
* Each group will receive a score corresponding to its final total scaled into 10 points.
* Week 1: Everyone (Groups 1 & 2) is responsible for clean-up and will be graded. Weeks 2-15 except semester break week: Groups 1 & 2 alternate.
* Schedule (refer to course schedule for week numbers)
* Week 1: Groups 1 & 2
* Weeks 2, 4, etc. skipping semester break week: Group 1
* Weeks 3, 5, etc. skipping semester break week: Group 2

**Part 2: End of semester (10 points)**

**Checklist**

In order to complete the end-of-semester lab cleanup task, perform each of the steps in the following checklist.

1. Preparation
   * 1. Download the “**MRSD Team X Lab Cleanup Worksheet**” file at this [link](https://docs.google.com/spreadsheets/d/1W-iIoetiPrxIZ1AfiRlGK1IQoPb0550JSYi5ywNpBrw/edit#gid=1017673253). Rename it by replacing the “**X**” with your team letter. You will record the status of your lab station in this Lab Cleanup Worksheet file.
     2. In your Team tab in the [MRSD Project Course Inventory](https://docs.google.com/spreadsheets/d/1Gx9jVdbuIodekWjrhTBI7Gs1hZQE5K1nXX2SNUeNGNU/edit#gid=13), refer to the images of individual items under the **Item photo** heading and to images of the lab station and toolchest setup under **Lab Station & Toolchest Pictures**.
2. Lab Station Inventory
   * 1. In your Lab Cleanup Worksheet, enter the number you have of each lab station item in the “**#Available**” column.
     2. If you have tools/items that aren’t listed, add them.
     3. Enter any additional information (e.g., if the tool or item is damaged, partially used up, different in some way from what is listed, etc.) in the {} braces under the “Notes” column.
     4. Submit your Lab Cleanup Worksheet on Canvas (only one per team)
3. **SPRING ONLY:** Sensors and Motors lab Items
   * 1. If you haven’t done so already, gather all items you received for the initial Sensors and Motors lab in order to return them during the lab station inspection. This includes Arduino Unos, the accompanying USB cable(s), sensors, motors (DC, RC servo, stepper), and breadboards.
4. **FALL ONLY:** Project Disassembly
   * 1. Discuss your intentions regarding the future use of your project with the instructor and the TAs. Unless it has been identified as a project we will keep for future years for whatever reason, you must disassemble your project.
     2. If your project is to be disassembled, then disassemble it and either put the parts into the lab open inventory in the appropriate bins/racks or put them into various categories (motors, sensors, hardware, mechanical components, electronic components, etc.) at your station for turn-in to the TAs as controlled parts.
5. **FALL ONLY:** Lab PCs
   * 1. If your team was the principal user of one of the lab PCs (w/ GPU), reset the PC using the "Resetting Lab PCs" instructions at the end of this document. If PCs were shared with other teams, decide among you who will do the reset.
6. Lab Station Cleanup
   * 1. All lab station tools should be put away in the same way your stations were set up at the beginning of the year.
     2. Clean up your lab station so that it is free of all dirt, dust, shavings, wires, screws, etc.
     3. Any large project-associated items should be returned to inventory or put in another suitable place that doesn't prevent people from walking freely in the lab.
     4. Put any useful extra parts that you come across while cleaning into the parts categories you created when disassembling your robot.
     5. The floor around your station should be swept and presentable.
     6. Trash is put out.
     7. Dehumidifier is emptied.
7. Out-Processing
   * 1. Schedule a Lab Cleanup appointment in response to information the TAs will send out.
     2. During out-processing, the TA(s) will:
        1. Check your toolbox, lab station, and project status and verify the numbers you entered in your Lab Cleanup Worksheet.
        2. Receive from you any extra parts and equipment from the items above and return them to and update the inventory accordingly.

**Grading**

* **Baseline grade** (the team scheduled an appointment and at least one team member was present at the lab cleanup out-processing): 0 to 2.5 points
* **Lab station and immediate area cleaned up** (no stray items, no removable stains or dirt on stuff, everything extra returned to inventory, no large non-disassembled parts lying around): 0 to 2.5 points
* **Lab station restored to its initial condition** (tools, etc. put away so that the station looks like it did at the beginning of the semester): 0 to 2.5 points
* **Tool/parts loss** (Minimal: 2.5 points; Noticeable: 2 points; Significant: 1.5 points; Disturbing: 1 point; Appalling: 0.5 or 0 points)

**Resetting Lab PCs:**

1. Notify all students / PC users to back up their data (cc the course gmail and the lab manager).
2. Download the latest version of Ubuntu 18 LTS from here: <https://ubuntu.com/download/desktop>.
3. Flash the installation image to a USB drive (at least 2GB) (using software such as <https://rufus.ie/> on Windows or Startup Disk Creator on Ubuntu).
4. During the installation process, select "Erase disk and install Ubuntu". Delete and format all unnecessary partitions on all drives.
5. The default username and system name must be set to “MRSD-Lab” and the password must be set to “MRSD-Cmptr-#x”, where x is the PC number (Eg: “MRSD-Cmptr-#4”). The PC number is listed on the computer case.
6. If the system has an NVIDIA GPU(s), install the drivers for the GPU(s) (refer to <https://docs.nvidia.com/cuda/cuda-installation-guide-linux/index.html#ubuntu-installation>). After the driver installation, make sure that (i) the system successfully reboots, (ii) the default user can login, (iii) and running the command “nvidia-smi” from the terminal displays all the GPU(s) information correctly.