ECE4078 2025 General Information

1. **Working as a team:** You will be working as teams of 5 people for the labs except for C1. All the team members will be from the same lab session. The teams will be formed using ITP Metrics with adjustments based on programming experiences and availability. During the semester, there will be three team surveys to help us understand the team dynamics. The results can also be used to scale the scores an individual team member receives in M2-M3 and in the final demo. The first ITP for M1 will not be used for scaling.
2. **Taking the robot home:** From week 2 onwards, each team can take a robot kit home to work on it outside of the lab sessions. Each robot has an ID number printed on the outside of its carrying box and on its frame, which will be used to log robot ownership and replacement / repairs. Make good use of the time and take good care of your robot. Make sure to bring your robot to the lab sessions fully charged and don't leave everything to the last moment. Let your demonstrators know if your robot is broken and a repair can be arranged, but beware of possible delays. You will need to return the robot and its accompanying parts at the end of the semester.
3. **Live demo marking (code submission):** Before a lab session where a milestone is to be marked, you are required to submit your implementation (self-contained with a readme) on Moodle. The code submission deadline of your team will be right before your lab session (e.g., for teams attending Tuesday's 9am-12pm lab the deadline will be Tuesday 9am). During a lab session where a milestone is to be marked, the teams in that lab session will be called to the marking arena in random order. The team members will then be asked to download their submission from Moodle to the local computer and run the codes downloaded for live demo marking. You are not allowed to make any changes to the downloaded codes. However, your code can take in command line arguments during execution, such as calibration parameters. During each marking slot, only the team performing the milestone is permitted near the arena.
4. **Live demo marking (map submission):** For milestones where you are required to submit a map or other types of outcomes generated during the live marking, you are required to submit these outcomes during your live demo marking session and show to your demonstrator that the required file has been submitted. No changes can be made to the submitted files. Your demonstrator will then mark the submitted files after the lab session. The demonstrators may review the codes you submitted during or after the lab session too. You may be required to explain your implementation to the demonstrators during or after the milestone marking.
5. **Being inside a threshold to get the mark:** If in a milestone your robot is required to reach a certain radius threshold around a target, the whole robot has to be within the radius and not touching the line edge to get the mark.
6. **Learn Python:** Both the lab and the practicals use Python as the programming language. The coding quiz in "Getting Started" is designed to help gauge your level of programming experiences. If you find these quiz questions difficult, it is strongly recommended that you try to improve your programming skills with available resources online.

7. **Use EdStem to communicate:**
   The teaching team will post weekly course info and updates on EdStem. Please ask your questions with the relevant thread topics.
8. **Generative AI tools:** Generative AI and other AI tools, such as ChatGPT or Copilot, are allowed. However, you are required to clearly state in the readme accompanying your submission on which tool you have used, which part of your implementation or design you used it for, and to what extent.
9. **The robot has to do the work:** You are not allowed to guess / brute-force possible ground-truth maps and/or coordinates in your robot's navigation, localisation, or other functions unless explicitly permitted for a specific task. Similarly, you are not allowed to infer object poses by manually measuring the arena, using grid marks on the floor, or taking 3rd person overview photos for the robot. The robot has to rely on its own camera and motion model for all the tasks.
10. **Autonomous means no human intervention:** You are not allowed to interfere with the robot or objects in the marking arena, such as picking up the robot or an object or moving them manually, unless explicitly permitted for a specific task. If a robot is required to perform an autonomous action, such as navigation, you are not allowed to interfere with the robot's execution, such as manually pausing/resuming an action, unless explicitly permitted.
11. **Don't modify the hardware:** You are not allowed to modify the robot's hardware, such as installing additional sensors or replacing the onboard camera, unless it's for purely appearance / aesthetic reasons or for permitted fixes.