1   WHAT IS THE REQUEST FOR PROPOSAL (RFP)?

The RFP is a preliminary report that you should submit before fabricating the design. The purpose of this document is to express your understanding of the project and your approach to carry out the specified tasks. The proposal must include a detailed step-by-step guide along with dimensions and materials that are required to assemble the rover design. When putting together this proposal it may help to imagine that you are selling a rover kit online and you want to make it easy for customers to assemble it.

2   DELIVERABLES

Here is a guideline for the RFP and its marking scheme. You can write down any ideas in the RFP as long as they are reasonable and justified. Keep in mind that a picture is worth a thousand words, whenever possible please include CADs, schematics, and/or diagrams.

1. _Project Requirements (< 200 words)_: Summarize expected tasks and limitations. (5 pts)
2. _Detailed Rover Design (< 2000 words)_: A detailed CAD drawing should be included to show the structure of the rover, how and why the sensors are mounted at certain locations, how your rover will pick up the block, and how it will maneuver its way through the maze. You also need to identify where components will be mounted on the rover, this includes items such as the Arduino, battery pack, and breadboards/circuit boards. Please put careful consideration into your CAD. Your design will be assessed on the ease of assembly. (40 pts)
3. _Bill of Materials_: Prepare a list of all parts that you will need for building the prototype and briefly explain their purpose. These include files for 3d printing and laser cutting. The total cost should not exceed 300 CAD. (10 pts)
4. _Maze Solving Strategy (< 300 words)_: Discuss how you will identify and display the current location of the rover in real-time and navigate the maze. Justify why your rover is well suited for localization. (20 pts)
5. _Contribution Table_: Summarize the distribution of work. (5 pts)
6. _Video Presentation_: Pitch your idea to the teaching team with a short 3-5 minute presentation of your rover design. (20 pts)

3   FORMATS AND SUBMISSIONS

- Cover page with the group members' names and student numbers
- Arial, 12 pt
- Save everything as a .zip or .rar file. Save the proposal as a single PDF file (images compressed) and include your video presentation along all the files required for assembly.
- File name should start with MIE444_Proposal_Team_#
- Submit the .zip/.rar file to the Quercus assignment
- Submit by 23:00 Friday, October 21st, 2022