THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY
Department of Electronic and Computer Engineering

ELEC1100

< Project Report Format and Writing Guidelines >

This report accounts for 3% of your overall score.

The report is documentation of the design you used for the challenge and a summary of your work. "Expression" and "use of English" will be considered in the marking scheme.

****Submission Deadline: upload to your Canvas LA1/LA2/LA3 page before 10:00am (in the morning) on Nov 28 (Thu).**

Late submission will NOT be accepted.

Each student will need to submit one report (individually). It is acceptable for the two group members to use the same logic flow chart. However, all further explanations and detailed descriptions in your report should be based on your own understanding and experiences with this robotic course. Write in your own words to describe what **YOU** have learnt and achieved.

In this assessment, you are allowed to use any kind of tools, sources and references to aid you. However, your report should be your own work and not copied from elsewhere.

Both of your code and report will be used to conduct the plagiarism check.
Copying from others will result in a mark penalty or failing this course.

REPORT FORMAT

Follow the given settings to format your report.

Page Setup
- A4 paper size, with margins of 1" (2.54cm) all around, portrait.

Language and Font
- English, "Times New Roman", font size 12 for all body text, size 14 for titles and subtitles.
- Black color for all text. **Bold** or highlighting is acceptable for tables, charts and notes.

Paragraph
- Ensure that single line spacing is applied uniformly throughout the entire report.

Length
- Min. 1,200 words, and max. 6 pages (include tables and diagrams).

REPORT CONTENTS

Your report contents should include the followings:

[Introduction] (0.2 point)

- Include a brief description of what you did. Someone not familiar with ELEC1100 project should be able to understand what you have done after reading your introduction. You may include a photo of your robot car or the demo mat with no less than 100 words for your introduction section.

[Logic Design] (1.6 points)

Here you will need to fully describe what you have built. Include the followings:

- Summarize the relationship between your system inputs and outputs:

  You may choose to explain your control logic in words or create tables to list the key values for each combination of inputs (sensors and counters) and their corresponding outputs (motor control signals).

- Logic-flow chart:

  Draw a logic flow chart to display your designed control process when writing the conditional statement code, you may include the key functions you used for coding or part of the code to explain more about your logic flow; you may also introduce your self-defined functions used to optimize the control structure.

- PWM values:

  Describe the PWM values (i.e. a low value or a high value and how these values affect the car motions) you choose to use in your *analogWrite* functions; explain if you ever changed these values between your submitted code versions and summarize if such changes helped in your demo trials; also explain if any additional coding sections you added after lab#06 to control/change the motor speed automatically at/after certain task point on the demo mat, or explain why not having one.

[Debugging Report] (0.4 point)

During your project, you should have encountered numerous bugs and defects, such as bad wire connections, broken ICs, pin misalignment, and error codes on Arduino Nano-board.

Describe at least two cases that you encountered a bug during the project.

Describe clearly: (1) what happened, (2) how you identified the source of the problem, (3) how you fixed it, with no less than 100 words for each bug description.

[Results & Conclusion] (0.6 point)

Here you should do a self-evaluation of your performance at ELEC1100 labs & project to recognize the faults, weaknesses, and strengths of yourself.

- Which part did you perform very well? Which part did you perform poorly? (circuits building, logic thinking, Arduino coding, debugging, writing lab summary, etc.)
- What do you think works well in your project code? What works poorly? What does not work?
- Did anything unexpected happen during the project period? How did you fix it?

Also, describe as you look back at the whole process.

- What would you do differently if you could start over?
- How could you improve your design if you had more time?
- Are there any bad decisions you have made during the project period?

Lastly, make a conclusion on your project and your experience with this robotic course.

[Writing Style] (0.2 point)

- The information should be structured from “Introduction” to “Results & Conclusion” in clear sections with titles and subtitles listed.
- The topics in each section should be fully described/explained with technical details and articulate statements.
- The settings of paper size, page margins, fonts, line spacing, etc. should follow the given format.
- Pages and words count should meet the requirement.