UNIVERSITY OF TECHNOLOGY SYDNEY

FACULTY OF ENGINEERING

Subject: ***48623 – Mechatronics 2 – Autumn 2016***

Assessment #: ***4***

Assignment Title: ***Report and Presentation***

Group Number:	
Student Number:	
Family Name:	
First Name:	

Declaration of Originality

The work contained in this assignment, other than that specifically attributed to another source, is that of the author(s). It is recognised that, should this declaration be found to be false, disciplinary action could be taken and the assignment of the student involved will be given zero marks. In the statement below, I have indicated the extent to which I have collaborated with other students, whom I have named.

Statement of Collaboration

Signature(s)

Marks

Competence demonstration - Report	/3.5
Appropriate and neat software	/3.5
Competence demonstration - Presentation	/6
TOTAL	/13

Tutor use only

✂

MII Assessment 4 Receipt

Assignment Title:	**Report and Presentation**
Student's Name:	
Demonstration Date:	
Tutor Signature:	

Aim

The aim of the report and presentation is to assess the competence in developing advanced microprocessor based Mechatronic products.

Requirements

You are required to submit a detailed report (in electronic format), which should include:

- The following table with each member's task breakdown and contribution(s). Each member should agree the contents in the Table by signing the last column of the table.

Eg :

Group member	Contribution %	Tasks	Group member's signature
John Howard	80%	• Program the stepper motor control • Overall project management • ……..	

- Hardware block diagram: Draw the hardware block diagram of the system.
- Algorithm: **High-level description** of the algorithm using flow charts and state diagrams. You only need to focus on the algorithms for navigation, exploration, error correction, victim detection and shortest path back. You **do not need** to focus on basic implementations such as initialising adc, lcd etc modules.
- Challenges and solutions.
- A complete copy of your source code(s) as an appendix.

This report should be submitted to Turnitin, on or before the date of the group presentations (NO HARD COPY IS REQUIRED). Do note that only one member should submit the copy before the deadline.

You are required to do a group presentation.

- You will have 15 minutes to present your group work including 2 minutes of questions and answers. All group members must participate in the group presentation. Please keep it to 15 minutes max, we will stop you if you go over and you will not gain marks for sections you have not covered.
- You do not need to spend time on explaining the task, everyone knows it.
- The presentation should focus particularly on how your system works and why you selected this structure, what you have learned and what you would do differently next time.
- You need to include a 2-3 minute video of your robot's attempts of completing the task. The video should be well edited. It is expected that a good video will take few hours to make and should include an overview of your approach and execution of the group assessment. Some tips:
  - Include the map: If you can synchronize the location on the map with the run and overlay it.
  - Use text, graphic overlays or narration to describe important aspects such as error detection/correction, use of heuristics, algorithms used etc.
  - Show and highlight important points: victim found, exploration done, home reached etc.
  - Keep the video fun and entertaining

At the presentation you must submit a USB flash drive containing your entire source code, project files presentation and video(s).

Due Date

The review presentations will take place at **CB11.B3.102** on the **Tuesday 7th of June 2016** from 1pm to 4pm in a random order.

Report and Presentation Marking Guideline

Report			**Marks**
Competence demonstration	**Report Content**	Structure and Presentation/Layout ▪ Contents, discussion, appendices etc ▪ Labeled graphics and referred in the report	**0.5**
		Design Description ▪ Block diagrams and flow charts ▪ Discuss design decisions ▪ Issues and solutions ▪ Explanation of exploration, navigation, correction, detection, localization	**3**
	Video	2-3 minutes video that shows: ▪ An edited run (for time) showing key moments ▪ Robot behavior; e.g. exploration, navigation, detection, correction, mapping, localizing etc… ▪ Problems, i.e. where your robot makes mistakes etc **Note: Must have subtitles**	**3.5**
Total			**7**
Presentation			**Marks**
Competence Demonstration	**General Presentation**	Design and Layout ▪ Clear and relevant visual content. Do not just copy and paste report and then read it out. ▪ Appropriate slides, timing, proofing ▪ Presentations should seem well-rehearsed and fluid in delivery	**2**
	Content	Design description ▪ Design methodology ▪ Design decisions ▪ Issues and solutions ▪ What the group would have done differently	**4**
Total			**6**

Support and Assistance

Support and assistance for this assignment will be available by posting questions on the "Tutorials and Assignments" forum on UTSOnline. This forum is monitored electronically and as such will have the same response time as a direct email. Please use the forum so that other students may benefit from the answers given.

Face to face support is available during lecture and/or tutorial timeslots. Please email to make an appointment.

Important Note: This is a group assessment which should be completed in groups. Work load should be equally divided among the group members.

Students with difficulty meeting assessment requirements

Students who experience significant difficulty, or anticipate that they will experience significant difficulty, in meeting assessment requirements must submit an "Application for Special Consideration form" (available at http://www.sau.uts.edu.au/assessment/consideration/online.html) to the Registrar before the due date of the assessment item. Significant difficulty means

i. Serious illness or psychological condition.
ii. Loss or bereavement
iii. Hardship/trauma

Note also that students may apply for special consideration because of illness or other circumstances (not work related) beyond their control. The "Application for Special Consideration form" has a section that must be filled in by a doctor, counselor or other relevant professional authority. A medical certificate alone is not adequate and will not be accepted.
Note that it is up to the students to provide adequate information about their circumstances. University staff will not chase additional information and the Subject Coordinator has the right to reject applications that lack sufficient information.

It is the student's responsibility to contact the Subject Coordinator to find out what action has been taken and to obtain details of any additional assessment required or learning and assessment special arrangements.

For further details please refer to section 4.6 of the "Coursework Assessment Policy and Procedures Manual".