# Content for week 1

Welcome to SIT217 – Robotics Project unit. In this unit, you will work on and develop robotics applications while at the same time being introduced to Agile project management. If you have not done so already, please have a look at Unit Guide available [here](https://d2l.deakin.edu.au/d2l/le/content/1192922/viewContent/6359974/View).

In this unit, we follow an active learning principle, i.e. your introduction to concepts is done through already prepared materials and videos. You are required to read the prepared materials, watch recordings and videos, and do your research and development before coming to the workshop (online or in person). During workshops, you will be working individually and/or in your group, to continue your learning by doing and actively participating in workshop activities. As such, it is important to come to your allocated workshop prepared to ensure you can maximise and enhance your learning experience.

For week 1, you will be introduced to project management approaches including waterfall and Agile. We will also demonstrate sample robotics projects. But first, let’s have a closer look at this unit and the structure.

[[LINK TO UNIT REVIEW LECTURE RECORDING](https://video.deakin.edu.au/media/t/1_1z9ujnxy)]

As mentioned above, we have prepared a sample project from another unit [here](https://www.youtube.com/watch?v=dX4biJ47NIU&list=PL77Ce-sJBKV82L8NLg1OZ2aFiQxPhsrzR&index=3). We also prepared three sample projects of SIT217 from previous offering [here](https://www.youtube.com/watch?v=5vQqeNO7coI), [here](https://www.youtube.com/watch?v=qBg0u9Ic2Uw), and [here](https://www.youtube.com/watch?v=_ndSRwSoR1c). While your project can relate to and solve a problem from any domain, please have the following in mind:

* We expect that you will be using an Arduino based hardware platform (preferably using the base kit from SIT123). We believe choosing this (or similar) hardware platform will help you find group-mates easier, save cost on the hardware while having a capable platform to work with, and will be more feasible for us when come marking your assignments (i.e., testing your code on our own hardware).
* Given that this unit is a starting point of a robotics journey for most of you, and the fact that in future units you will be introduced and asked to work with rovers and drones, our expectation is that your project will involve a rover built using the Arduino platform (a possible robot chassis can be found [here](https://www.amazon.com/Ardokit-Chassis-Encoder-Battery-Arduino/dp/B00K5OWHXO?&currencyCode=AUD), and many videos are available that demonstrate how you can assemble and use one, for example [here](https://youtu.be/oQQpAACa3ac)). Then you will be able to reuse the hardware in your future units as well and improve on your robot.
* You will be working in groups, building multiple version/designs for robots that are targeted to the same application. It is important that your idea matches that of your group mates, or you can find a middle point, so that the groupwork can be best facilitated around the application.

You must know by now that we will be using OnTrack. To get you started with tasks on OnTrack and have a better understanding of your expectations (so that we can try our best to meet them during the trimester), head to OnTrack and read Task 1.1P, Hello OnTrack. Prepare your answers and submit it to OnTrack when ready.

This week you will be introduced to Software development lifecycle and Agile project management. Before coming to the workshop, please watch the video recording for SDLC and Agile project management.

[[LINK TO AGILE VIDEO RECORDING](https://video.deakin.edu.au/media/t/1_4p4wikh0)]

# Workshop activities

(At least 30 minutes) If you have prepared your project ideas, go around tables and discuss your ideas with your classmates (or for cloud during Teams meeting session). Try to find similar projects and perhaps team-mates. Your tutor will help you facilitate the discussions.

(At least 30 minutes) During the workshop, discuss how SDLC relates to both Waterfall, and Agile. Try to come up with example projects that would suit each methodology and discuss Pros and Cons.