

UC MAKERSPACE

UC Makerspace Proposal

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An unofficial proposal for your consideration



WHAT IS A MAKERSPACE?

Makerspaces provide equipment, tools, and space in a community environment to foster collaboration for creative endeavours, hands-on learning, rapid prototyping, and invention. Makerspaces have evolved in academia as cross disciplinary cooperative workshop areas that include tools and equipment that are too expensive or specialized for most people to have in their homes, and to provide a gathering place for like-minded people to create and collaborate.

There is no standardisation of makerspaces in terms of equipment and tools that are offered. The space and equipment are determined by the needs of the users and will evolve over time. 3D printers are one of the most commonly found types of equipment in makerspaces, along with small electronics and other manufacturing equipment such as laser cutters. Makerspaces also act as innovation spaces, offering collaborative areas for teams or academic societies to run events and workshops.

WE CAN'T AFFORD TO NOT HAVE A MAKERSPACE

Until UC gets a makerspace open to all students...

- Innovation from students will continue to be stifled.
- Prospective design/engineering students will continue to choose other universities that embrace makerspaces.
- UC clubs and societies that would greatly benefit from such a space (such as the UC Engineering Society, UC Design Society, and the Student Developer Organisation, etc) will continue to be disadvantaged.
- UC (unlike other universities) will be unable to give back to the community through initiatives such as manufacturing PPE equipment.

BENEFITS OF A MAKERSPACE AT UC

A makerspace will provide students with access to a wide range of technologies in order to foster innovation on campus.

- Student creations serve as powerful marketing material. The examples below were developed without the support of a makerspace and at significant cost to the students involved - a makerspace will lead to a significant increase in projects like these due to the reduced cost to students and support from makerspace mentors.
 - The [advanced 3D-printable face shield design](#) created earlier this year received national media coverage, the University of Canberra featured prominently throughout this coverage.
 - The [robot created by the UC Engineering Society in 2019](#) received praise from Questacon and [Stelarc](#). Its creation was also used to support the creation of robotics units at UC.
 - The [advanced hexapod robot](#) created by myself and Chris Lane at UC was recognised nationally by Engineers Australia and significantly featured in UC marketing material.
- A makerspace can support existing courses and units at the University of Canberra.
 - Engineering/design students will have access to a wide range of tools so that they can design and manufacture projects entirely at UC – there will be no need to pay for external services.
 - Final-year engineering/design students who are completing major projects will have support from the makerspace, including access to equipment and mentors. This will take significant risk out of their projects. This will also enable larger-scale projects to be viable or completed more easily.

- 'Maker' clubs/societies will be able to store their equipment and make use of the makerspace for their events and workshops.
 - Clubs such as the UC Engineering Society have struggled with storing their equipment as no dedicated club space has been provided and storage locations offered to the club have been insufficient for safely storing expensive equipment. Having a dedicated base like the UC Makerspace will enable clubs to take on larger-scale projects that are not currently viable - such as entering national or international robotics competitions.

FOR THE COMMUNITY BY THE COMMUNITY

- The UC Makerspace will be open to all UC students - no equipment or tools will be restricted to students from specific faculties.
- Student volunteers will be the heart of the UC Makerspace. Volunteers will assist in delivering training sessions and provide their expertise to students.
- Clubs and societies have often struggled to maintain a presence at UC – supporting them will be a main goal of the UC Makerspace. In return for clubs/societies using the space, they will be offered perks such as:
 - Storage space.
 - Promotion of the club/society at the makerspace and online.
 - Regular timeslots for room bookings in the space.
- The UC Makerspace will make community initiatives possible - like 3D-printing PPE equipment in response to the COVID-19 pandemic. This was not possible in 2020 due to the restricted nature of the current manufacturing tools and equipment at UC.
- UC promotional material can be designed and manufactured in-house, such as awards for events, signage, pot plants, etc.

- Classes will be able to make use of the space for teaching purposes.
- It can be used as a STEAM learning space to engage primary and high school students through UC outreach events.
- It can act as a venue for community events such as the [UC Repair Café](#), or [Shirty Science pop-ups](#).

FACILITIES & EQUIPMENT (EXAMPLES)

3D printers	Laser cutters	Sewing machines
Seminar room	Mini recording studio	Mini photo studio
Computers	Small electronics	Tools

COSTS TO CONSIDER

- Renovations to the room to make it suitable for a makerspace. This includes ensuring proper ventilation and power capacity for equipment.
- Fit out of makerspace with equipment and tools. A few Australian companies offer educational packages that include bundled items such as 3d printers, laser cutters, and 3d printer filament at reduced cost.
- Ongoing costs of materials such as 3d printer filament, acrylic sheets for laser cutters, glue, etc. It is expected that students will pay or subsidise the cost of the materials they consume.

To ensure an adequate, safe, and future-proof makerspace for years to come – an investment of \$75,000 to \$125,000 would be ideal for the phase 1 setup.

I CAN HELP!

I would love to discuss the finer details of the UC Makerspace in person or via video call. I have been involved in the maker movement for many years and have access to contacts, both at UC and beyond, that will be of great benefit to the creation of the UC Makerspace. Find more of my work at cronin.cloud.

GET IN TOUCH:

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