

## University of Technology Sydney (UTS) Summer Studio

The UTS Faculty of Engineering and Information Technology Summer Studio engaged students, staff, community and industry partners in over 15 interdisciplinary-focused, open-ended, project-based studios creating design solutions for real-world problems. This learning community, which was a successful experiment of scale and the use of innovative pedagogical strategies was designed and coordinated by Dr Roger Hadgraft and included students from the faculties of Engineering and IT, Design, Architecture, Building and Transdisciplinary Innovation.

Over 190 students enrolled in 18 studios in 2020 led by about 21 staff and students serving as studio learning facilitators and included about 11 community and industry partners. The studios launched with a design thinking boot camp and continued for 6 weeks providing the students with six credit points. The Summer Studio closed with a university-wide showcase event scheduled during university orientation week that was open to all university students, parents, community partners and industry representatives.

The UTS Summer Studio teaching team, engaged the studio participants in a variety of design and agile project management techniques to launch innovative and entrepreneurial projects such as designing liveable cities, tackling global warming, re-conceptualising healthcare solutions using medical devices to designing community spaces with indigenous and community stakeholders in Broken Hill using culturally-sensitive, stakeholder-centric design techniques.

Students in all of the studios started with learning about design thinking skills and entrepreneurial mindsets and then broke into teams to utilise techniques for empathising with stakeholders, problem framing, ideating potential solutions, validating stakeholders' needs, prototyping, and testing early-stage designs. In addition to design thinking, students in each studio learned the technologies and the requisite knowledge from the multiple disciplines involved in solution creation as they developed prototypes. These technologies included using enterprising mindsets and deploying technologies enabling cyber security, data analytics, robotics, math modelling, sensor design, Internet of Things, artificial intelligence and machine learning, quantum computing, augmented reality, space applications, medical devices and techniques for product development and leading culture change.

The student teams demonstrated their learning, employability skills and prototypes in an interactive environment that facilitated further work integrated learning and community and industry engagement opportunities. Students have opportunities to extend their project work by enrolling in the UTS Startups and UTS Techcelerator programs, capstone project-based learning subjects, industry internships, and a variety of innovation and entrepreneurial learning activities at UTS.

