

# Building Our Future In Space

## Space Lawyer

There are five principles and treaties in place that a space lawyer must enforce or comply with when any single person or organisation wants to do anything in space.

The main idea behind each is to prevent harmful activities for the environment, ensure freedom of scientific investigation and resource exploration, the safety and rescue of lost astronauts, and notify and register space activities.

Their job role ensures that the activities carried out in Outer-space are to better advance the well-being of all countries and humankind.

The minimum study requirement to work as a space lawyer is an undergraduate law degree, and most universities in Australia will offer this degree.

So if you're the kind of person who would like to advance the human race ethically and responsibly, this job is for you.

## Robotic Engineer

They use mechanical and programming skills to create autonomously or human-operated robots and machinery.

They're a large part of all space sectors, and they've created some ingenious inventions to help aid our exploration of space and other planets.

The Ingenuity Mars Helicopter went to Mars with the perseverance rover. The drone sized helicopter was built to be able to fly in Mars' thin atmosphere.

A minimum study requirement to work as a Robotic Engineer in the space industry is an undergraduate degree in engineering.

However, the primary engineering majors relevant to becoming a robotics engineer for the space industry are Mechatronics and Robotics Engineering.

Thankfully Australia has a strong robotics industry, and most universities around Australia offer the courses needed.

## Astronaut

Successful astronaut candidates spend years in training before joining their first mission. This training includes physical underwater and microgravity activities to prepare them for space.

Their responsibilities in space include spacecraft maintenance and repair, undertaking scientific research, and being research subjects themselves. Scientists study them to learn more about how being in space affects the human body.

The criteria for becoming an astronaut vary between space agencies and commercial employers.

Degrees in engineering (Aerospace, Mechanical, Electrical, Robotics, Mechatronics, Biomedical or Systems) and science (majoring in Physics, Chemistry, Biology, Geology, Earth science, Oceanography, etc.) may also be relevant to becoming an astronaut.

Almost all universities in Australia will offer degrees in these fields.

## Space Scientist

Space scientists are trying to find the answers to all the big questions. Some of these questions include, is there life on earth? What are other planets made of, and how were they formed? How did the universe even begin?

Their role in the industry is largely a research-based one and is an incredibly broad field study, often including Physics, Chemistry, Geology, and Mathematics.

Because of the broad fields of study, a bachelor in Science, with majors in a field such as Physics, Chemistry, Statistics, Astrophysics, Biochemistry, Geology, Astronomy, Mathematics, and planetary Science.

Becoming a space scientist will be hard but will reward you with knowledge of the universe. Most universities in Australia offer degrees in relevant areas of Science.

## Dr. Sacha Schediwy

Dr Schediwy is currently working on developing an Optical Phased Array to Power Interstellar Travel. This is after helping create The Square Kilometre Array (SKA) and an international effort to build the world's largest radio telescope.

His current project is concerned with designing a practical and scalable optical phased array system suitable for use in Breakthrough Starshot.

Breakthrough Starshot aims to demonstrate proof

for ultra-fast light-driven nanocrafts and lay the foundations for a launch to Alpha Centauri within the next generation.

Alpha Centauri is the third brightest star in our night sky and the nearest star system to our sun.

His current project will be substantial proof for Breakthrough Starshot, a project which, if successful, will lead to interstellar travel at speeds higher than previously possible.

