

Why I want to be a professional engineer

James Marriott

My name is James Marriott, and I am enrolled in the Bachelor of Engineering (Honours) course at Canterbury University, pending exam results. I am currently planning on completing my degree in civil engineering; though with the flexibility of the intermediate year I am leaving my options open. I want to study engineering because my abilities and interests suit the profession; the challenges and problem solving required give interest; I am keen to be able to make a practical difference by applying the skills I have learnt; and because engineering is a flexible field of study with a lot of demand, that will allow me to choose a direction that suits me and teach me skills useful in many other fields.

I have always had an interest in numbers and the world around me, which has led to a passion for science and mathematics at school, particularly physics and calculus. I have taken part in accelerated and scholarship mathematics and science programs at school, been selected for programs such as the Hill Laboratories Waikato Science Summer School at Waikato University, and love working on and solving physics and mathematics problems. I excel in these areas, but in addition I have an interest and enjoyment in considering wider views and presenting my own, achieving to a high standard in English and geography. Particular areas of interest for me are analysing views, issues, ideas and language; argumentative essay writing; and considering different viewpoints and their relative merits. In addition to this, I have an attention to detail, and an extensive amount of training in communication skills. Looking at career options, engineering was a natural choice as it allowed me to combine all of these abilities and interests. Engineering allows me to combine physics and mathematics, my two main academic strengths and interests, with the analysis, decision making and communication skills that I also enjoy.

At the same time, engineering also offers a challenge to me as it requires extensive problem solving and applications of knowledge to situations. I particularly enjoy identifying and solving problems in situations, and analysing how things work and how effective they are. Problem solving gives things an added challenge, and gives science and mathematics an extra interest as I apply them to find a solution. This constitutes a key part of engineering, as with the multitude of obstacles different situations have to be solved in unique ways. I want to be an engineer because these obstacles will provide a constant source of frustrations and triumphs, making life more interesting and less repetitive. I prefer searching for ways to do new things and seeing how apparently different processes can be connected, compared or combined, rather than simply the same cut and paste task again and again. While obviously old well tried techniques are often best and many things when boiled down are more or less the same, I like the challenge that new problems can bring. This would be a necessity for me to be able to embrace a career with a passion, and it is something engineering provides.

However, I also want to be an engineer because it makes a practical and immediate difference to people, not just to text books. The work of an engineer of whatever field, and in whatever position from academic research to surveying, has a direct and real impact. From a new road, to a new piece of electronics, to a new chemical process, the end result makes a tangible difference to human lives, noticed or unnoticed. Being able to have this impact through 'everyday' work makes engineering very attractive to me. I find it important that I can use the skills I have to actually do something worthwhile, to solve a problem large or small. I want to be a professional engineer because it gives something to the community, even if no one ever knows. I want to know that at the end of the day my work will actually be out there somewhere, being used. Because the whole point of engineering

comes from finding ways to solve problems, engineers make a difference simply by doing their jobs, providing a service to the community. I want to be in a job that can do that.

On top of that, engineering is a useful, flexible profession in great demand. There have been engineers for thousands of years, and will almost certainly be for many more millennia to come. Humanity has always needed problem solvers to create solutions, and always will. Engineers are in high demand to fulfil this need, and are vital members of society. The profession covers a wide variety of fields with a similar ethos, so by choosing engineering I still have a varied selection of directions to choose from, to suit my personal passions and interests. Even within specific fields I have flexibility, as I can choose how hands on or hands off I want to be, how much time I want to spend in the outdoors or behind a desk, and how much I want to manage or be led, by choosing different directions off the same qualification. I want to be an engineer because the flexibility allows me to shape the career best suited for me, and leaves me the option to change my mind and head off in a new direction later. Further, the skills from engineering are useful in many other fields. The problem analysis, communication and management skills can be taken into any number of fields, from personal life to business to politics or administration. An engineering degree gives me the flexibility and the skills to go where I want to go.

I want to be a professional engineer because it allows me to apply my interests to the real world, making a practical difference to those around me. Engineering as a career allows me to challenge and extend myself by solving problems, making it enjoyable and interesting. Engineering fills a needed role in society, and provides useful and flexible skills that will allow me to get to where I want to be in life. That is why I want to be a professional engineer.