

# Tools to sharpen thinking

Industry-relevant skills and an analytical mindset gives Tan Qi Sheng, 24, an edge over his peers

## Why did you decide to pursue a degree in electrical engineering and information technology?

I am fascinated by how electricity is changing our way of life. It is a modern marvel and the lifeline of every mega city.

## Why TUM Asia?

TUM Asia is an affiliate of Technische Universitaet Muenchen (TUM), Germany. TUM is one of the top technical universities in Europe. Lessons are conducted in Singapore by professors from TUM and are similar to the TUM courses conducted in Germany. The degree certificate is also identical to those studying at the TUM home campus in Germany.

The Bachelor of Science programmes require students to complete their bachelor's thesis at TUM campus in Munich, Germany, which is something I was attracted to.

## Tell us more about the programme.

The Bachelor of Science in Electrical Engineering and Information Technology covers fundamental knowledge, such as Linear Algebra, Physics and Circuit Theory. Based on these fundamentals, more in-depth concepts are introduced and we learn how they are applied in the relevant industries.

## What are your professors like?

My professors are passionate and dedicated professionals. They are from TUM, Germany, and are all veterans in their field of work. TUM requires a candidate to have many years of work experience in the industry before becoming a professor.

Equipped with a wealth of industry experience, the professors can structure practical problems for me to work on and start my engineering career on the right foot. They are patient and will go the extra mile to ensure that I understand the subject.

## How else do they enhance your learning in school?

The lecturers introduce new concepts and theories through discussions. This teaching approach trains me to formulate constructive questions by understanding

the lecturers' train of thought when tackling a problem. This has helped me develop a systematic thought process when encountering new concepts or problems.

## How does your degree programme equip you with industry-relevant skills?

The modules are usually covered intensively over a period of two to three weeks. Depending on the professors and discussions alone are not sufficient to learn effectively. Independent learning plays a critical role to successfully completing the modules.

The degree programme also includes lab courses where I have to propose a possible solution for a problem based on the knowledge and concepts I have learnt. This allows me to sharpen my analytical skills and put what I have learnt into practice.

## How will these skills benefit your job?

Independent learning trains me to be ever inquisitive. Instead of believing everything I read in the manuscripts, I will compare them with other sources and attempt to prove them on my own. Having analytical skills also allows me to describe a complicated problem systematically. This enables me to break it down into smaller sub-problems and obtain a possible solution.

## You recently completed your overseas exchange in Munich, Germany. How was it?

I was in Munich to complete my bachelor's thesis and the experience was extremely rewarding. I was given the opportunity to do independent research under the supervision of a professor from TUM. Students from different levels — bachelor's, master's and PhD — worked together and there was a free exchange of ideas and discussions on potential solutions for the problems we had encountered.

Work aside, I travelled and experienced the different cultures in

Europe. Overall, the exchange programme taught me how to assimilate into new environments and work with people from different backgrounds, allowing me to effectively adapt to change.

## How does TUM Asia help students in their job search?

TUM Asia organises annual career fairs to give students and graduates the opportunity to network and find out more about the different jobs available in partner companies, such as Infineon Technologies, Lantiq and Wincor Nixdorf. TUM Asia also conducts career workshops on topics such as resume writing and job interview tips.

## You're graduating in June. What's next?

I aspire to be a product engineer. I also hope to pursue a Master of Science in Power Systems and Energy Management offered by TUM through TUM Asia.



**Course:** Bachelor of Science in Electrical Engineering and Information Technology  
**Institution:** Technische Universitaet Muenchen (TUM) Asia