Nurturing Mechanical Engineers with a Digital Edge

SIT is moulding digitally-skilled mechanical engineers for the future by integrating mixed reality into its applied learning approach.

04 September 2020

Mechanical engineering has been an important enabler of Singapore's growth for more than five decades, but in an age of technological disruptions, yesterday's competence is not enough to fuel tomorrow's competitiveness. Recognising this shift, SIT introduced the Bachelor of Engineering with Honours in Mechanical Engineering, a joint degree programme with the University of Glasgow (UoG), in 2019.

The three-year programme is designed to not just equip students with a strong foundation in mechanical engineering, but train them in digital skills that are in demand across today's industries. This focus on digital gives students a distinct advantage to meet the demand for professional competencies in disruptive digital technologies in industry sectors including industrial automation, robotics, smart manufacturing, maritime and healthcare.

All undergraduates of the programme will acquire digital fluency in Industrial Internet of Things (IIoT), data analytics and digital designs through project-based multidisciplinary learning integrated with industrial immersion. In addition, they can choose from two specialisation tracks – Design or Mechatronics. The design specialisation focuses on concepts of digital manufacturing and design; while the mechatronics specialisation has an emphasis on IIoT employed in automation, robotics, unmanned systems and co-bot design.

A distinctive feature of the degree programme is the use of mixed reality software, specifically holograms, to facilitate inductive learning in design engineering. Mechanical Engineering undergraduates will gain hands-on experience in using the Microsoft HoloLens to translate their 2D CAD designs into holographic parts of assembly testing. They can efficiently explore design options and iterations with this highly interactive and transformative technology without the need for multiple prototyping.

"Using holograms to bring the design into a real environment and manipulating it (the design) live can be done without having to build the prototype," said Assoc Prof Alfred Tan, Programme Director, Engineering Cluster. He added, "This method of 'staging it up' allows students to experience the entire process in a very cost-effective way." Watch this video to find out more.

Students using the Microsoft HoloLens to translate their 2D CAD designs into 3D holographic parts for testing.
Giving SITizens the Opportunity to Grow, the Sheng Siong way

Steadfast support for SIT students from the Sheng Siong Group – through its gifts made toward the Student Relief Fund @ SIT as well as the endowed Sheng Siong Group Bursary – will support SIT undergraduates through the pandemic and beyond.

04 September 2020

The Singapore Institute of Technology’s appeal to donors to support undergraduates through the Student Relief Fund @ SIT (COVID-19) received its single largest gift in August, thanks to the Sheng Siong Group. The homegrown supermarket chain made a gift of $500,000, which in addition to the gifts from other generous donors, will help even more students at SIT cope with the far-reaching effects of the pandemic.

Last October, the Group had already made possible the endowed Sheng Siong Group Bursary, in aid of financially disadvantaged students at SIT. From this Academic Year 2020/21 onwards, 15 Sheng Siong Group Bursaries will be awarded annually, and in perpetuity, to deserving undergraduates of all nationalities at the university.

Prof Tan Thiam Soon, President, SIT, said: “We wish to thank the Sheng Siong Group for enabling the neediest of our students to complete their degrees amid the enormous financial challenges they are facing, and to provide them with such a sterling example of paying it forward in the community. I am sure our students will be inspired by such generous support from a household name they are familiar with in their day-to-day living.”

Founded in 1985 as a small provision shop in Ang Mo Kio, Sheng Siong has grown to become one of Singapore’s top retailers, with over 60 stores island wide and has been listed on the Singapore Exchange since 2011.
Playing a Part in the Food Trends of the Future!

Food Technology: STI students are coming up with tantalizing and innovative food products

On September 2020

Major food-related initiatives are taking place in the food industry, and STI students from the Bachelor of Food Technology with Honours degree programme, jointly developed and mentored by the Temasek Polytechnic’s Food Technology ST and Nexus University, are already beginning to contribute to more innovative ideas to the growth of the food industry.

Baking science, technology, and business, the programme’s students and graduates are equipped with applied food technology skills — and more so some of their invesigators have been exposed to Digital Trends.

Plant-Based Alternative in Bubble Tea

Millions of Singaporeans and Asians alike can attest that the surge in veganism and plant-based products in recent years have changed the way they eat. They’ve come up with products formulated without any protein that are higher in proteins and lower in carbs, making these products a healthier alternative.

Zen-Inducing Cup of Tea

In another inventive experiential project, STI students branched out and concocted a new sugar-added, naturally flavored green tea that resembles Cinco de Mayo. It successfully deals with the traditional herbal tears, that aimed to offer alternative possibilities of using any plant-based products instead of traditional-based products or milk tea. They came up with products formulated without any protein that are higher in proteins and lower in carbs, making these products a healthier alternative.

Turning Food Waste Into Something New

Local companies and institutions have made breakthroughs in food waste valorization, a process that converts food waste or by-products into higher-value products with value, or new products of high-value and fills production that is rich in fibre and proteins. STI students recently collaborated with Dr Patrick, in leading main researches in food biochemicals in Singapore, to create a new food product by using algae as one of the key ingredients.

“While the industry has been more or less treating food waste as a serious challenge,” according to Ameen Paul Jeyaraman, who leads the Food Technology programmes at STI, the university “encourages their students to incorporate the process into their product development as part of their learning.”

Balls of Flavonoids

An innovative and small efforts gain publically with its consumers and lose convenience and efficivity, Santos group identified ready meals as the trend against with novelty. They have collaborated with STI that year students to develop food ready to eat meals. After fruit selection and experimentation, the students have come up with small ready-to-eat meals for vending machines.

STI students from the Food Technology programmes in close collaboration with STI students from the Food Technology programmes at STI, Nexus, and the students of Nexus University, have been exposed to Digital Trends.

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Anticipating the Mentoring Journey

SITizens prepare for their roles as Alumni Mentors and Student Mentees before the launch of the inaugural SIT Alumni Mentoring Programme

04 September 2020

SIT will soon be launching the university’s very first Alumni Mentoring Programme – a 6-month long programme that brings together SITizens to foster personal and professional growth and exchange knowledge and skills through mentorships. Organised by the SIT Advancement & Alumni Division and supported by SIT Student Life, the first round of registrations concluded in early August, where SIT alumni and students signed up as Alumni Mentors and Student Mentees through the Programme’s official website.

In preparation for the programme, 43 alumni and 48 students joined an online Meet-&-Brief for Mentors and Mentees respectively, where they discussed their goals for their mentoring journey, as well as the dos and don’ts of a mentoring relationship.

Among the alumni who have signed up to be mentors is Mr Thu Ya Kyaw, a Computing Science graduate. He sees this as an opportunity to share his own experiences from work and school. Mr Kyaw also hopes to hone his mentoring skills and make an impact on his mentee. “Mentorship isn’t about telling mentees what to do, rather it’s about showing them the possibilities and guiding them to choose the right path,” he said, sharing what he learnt from the Mentor Meet-&-Brief.

For Ms Mabel Lu, a Systems Engineering (ElectroMechanical Systems) student, this would be her first time learning from a mentor. “I want to learn new things and broaden my perspectives, and I’m looking forward to learning from my mentor” she says.

Besides facilitating a mentoring relationship between alumni and students, the Alumni Mentoring Programme will also provide opportunities for the participants to bond and build their network through social events.

The Mentors and Mentees had group discussions on mentoring etiquette and what to expect through their mentoring relationship.
Considerations when Investing

Participants gain new knowledge on the basic investing concepts, benefits and risks of some financial products and how to start their investment journey at the SIT Alumni Career Network workshop.

04 September 2020

On 13 August 2020, 69 participants gathered expectantly online, with a hunger for financial wisdom at the “Considerations when Investing” workshop, the latest instalment in SIT Alumni Career Network’s Financial Literacy Workshop series.

Led by the Institute of Financial Literacy, participants went through topics such as understanding investment objectives and risk appetite, various investment strategies, and how to construct an investment portfolio.

As the talk progressed, the SITizens evaluated if their investment objectives were for growth, income or security, and learnt how they can diversify their portfolio by combining assets which have negative or no correlation with each other. The Institute of Financial Literacy also advised participants that the retirement planning should ideally start from the time they begin their career, and investing should start early because they can afford to take on more risk with their investments due to a longer investment horizon.

Early Childhood alumna Ms Valerie Tan signed up because she wanted to have a better understanding of the different investment objectives and strategies, and said the talk provided a good overview and introduction for those considering to invest. “My investment objective is mainly for growth, so I would adopt the investment strategy of diversifying into different bonds and stocks,” she said.

Ms Alyssa Stefanie Peter, a Physiotherapy alum, found the workshop useful. “I learnt how to match my risk appetite to investment opportunities. The workshop made me realise that investing is not ‘one size fits all’, so there's no correct or wrong way to invest, just what is most comfortable for you and your pocket,” she said.

Participants had a fruitful evening learning from the Institute of Financial Literacy.

Should You Time the Market, or Spend Time in the Market?

It is hard to make a significant return on investments on a sustainable basis by timing the market due to a few reasons:

- Trying to time the market is very difficult.
- It adds to investment risk.
- It fails to make a positive impact consistently on the investments.
SITizen Buzz Asks: Working From Home

Introducing SITizen Buzz Asks: We ask SITizens how their work life has changed since the COVID-19 circuit breaker!

04 September 2020

It's been about four months since the COVID-19 Circuit Breaker began and changed how Singaporeans work and play. We decided to check in on SITizens with some quick questions about working from home on the official SIT alumni Instagram.

1. Are you still working from home?

The implementation of the Circuit Breaker has had people adjusting to the new normal of working from home.

Judging from our Instagram poll, while some people are heading back to the office, most are still enjoying the benefits of working from home.

2. Which do you prefer?

Or are they? 57% of our poll-takers say they prefer working at the office.

3. What's the best or worst part about working from home?

The reason for that could probably be that while working from home has its perks, it can also be a bit of a struggle.

The number one perk for most SITizens? Sleep. One user responded, "I can sleep till 9am and start work straight." But according to another user, the line between work and leisure gets blurred. They said, "(The best part is that I'm) able to eat home-cooked food all day. Worst is that I am on call 24/7 and in work mode."

What topics should we ask about next? Message us on Instagram or email us at Alumni@SingaporeTech.edu.sg.