ENGINEERRUS

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GRADUATION

2015

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SEA Came

2015:

Student

Athletes

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Robotic **Guide Dog** for the blind

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Looking ahead with our new Director

Mr Wong Kia Ngee, 53, has been appointed Director of the School of Engineering. He takes over from Mrs Lay-Tan Siok Lie, who had been at the helm for the past 18 years. **ENGINEERRUS** gets a sneak preview of what lies ahead.

Immaculately dressed, Mr Wong sits behind the desk of his neatly kept office, the faint white lines on his well-pressed peach-coloured chequered shirt highlighting the striking colours of his perfectly-adjusted red-blue patterned silk tie.

"You call the shots," he tells this reporter, as he prepares for the photo-shoot, held in his office at the Centre for Foundation Studies, of which he is also concurrently the Director.

"I've sat in this office for about 3 years," he reveals, although it didn't look so, as most offices tend to get cluttered up within a year. "Yes, I will be moving into Mrs Lay's office soon," he adds.

After joining Temasek Polytechnic in 1993, the former Defence Engineer at the Defence Science Organisation had risen through the ranks – first as Course Manager of the Diploma in Telecommunications (now renamed Media & Communication Technology) and later as Deputy Director overseeing curriculum and academic matters, before assuming the post of Joint Director in 2014.

How do you feel about taking over as Director of the School?

"I feel honoured. Our School has been in very good hands and has come to be associated with our previous Director, Mrs Lay, who has led us to where we are today. I look forward to continuing her good work for the School."

Looking ahead, what is your vision for the School?

"The polytechnic education and training landscape is

evolving with our national SkillsFuture initiative. We will strengthen our teaching and learning as well as industry engagement, and focus on applied learning to tighten the linkage between the skills acquired by our students and their application of these skills in the workplace. It is important to have the right staff who are sufficiently equipped to execute and implement these plans, so there will be continuous focus on teaching excellence and capability development."

What is the most pressing issue that you will address as one of your top priorities?

"One of my immediate tasks would be to further strengthen the engagement of our staff, as they are our greatest asset. It is only with the determination and dedication of our staff that we can ensure continued success in the education and training of our students. We will invest time in creating and sustaining a sense of belonging and shared purpose among our staff."

Do you have a message for our readers?

"To our students, I would like to say, strive for academic excellence, but do also learn to develop a heart that feels for others and which burns with a desire to help those in need.

For our staff, my hope is that they can further strengthen their commitment, keep themselves industry-relevant and teach with passion.

To all secondary school students, we invite you to join our School, where you will be enriched by a programme incorporating a highly industry-relevant curriculum that provides knowledge and skills through a range of learning experiences. We will do our very best to help you achieve your future career goals."

"It has been a privilege and blessing for me to be given the opportunity to work with all of you. My heartfelt thanks for your partnership and support over the past years! The School will always have a special place in my heart."

Mrs Lay-Tan Siok Lie
 Outgoing Director

WERE YOU

Hundreds of secondary school students visited TP's School of Engineering to get a taste and feel of Poly life. They toured the facilities, attended workshops to pick up Engineering-related skillsets, and had fun learning. Were you one of them?







Deyi Sec School (12 Mar '15)









ROBOTIC COMEBACK

Our Engineering students sprung into prominence, winning a total of 10 awards – 4 Gold, 2 Silver, 2 Bronze and 2 Commendation awards – at the annual Singapore Robotic Games competition held on 28 & 29 Jan '15.

Most significant was the School's complete domination of the "RC Sumo" and "Autonomous Sumo" categories, in which it swept all the medals at stake, including even the Commendation awards.

Meanwhile, the School also retained its crown in the "Intelligent Robot" category for the 6th consecutive year, reaffirming its invincibility in this category.

Mr Lim Hock Beng, the mastermind behind 8 of the School's 10 medals this year, was all smiles after the competition. "We're back in business, normal service has resumed!" he declared.



Best friends "King Kong" and "Hamster" won a Gold each

The most intelligent

champion, "ABC"

robot found in our local polytechnics – 6 time

Our golden twins, "The Collectors", won the "Robot Colony" category

EXCEL LENT PERFORMANCE



Evelyn Chee, from our Diploma in Business Process & Systems Engineering, emerged 2nd runner-up in the Singapore Academic Skills Challenge (Microsoft Office Specialist) for the Excel program held on 24 Apr '15.

Participants were tasked to prepare an Excel project sheet with specified instructions on manipulating data, applying formatting and inserting formulae and charts, which had to be completed within 30 minutes.

The former student of North Vista Sec School, who had just completed a Microsoft Excel training programme, was the only trainee from Temasek Poly who qualified for the finals of competition, organised by Certiport Singapore.

INNOVATIONS GALORE

Innovative inventions by our Engineering students nabbed 5 Commendation awards at the annual Tan Kah Kee Young Inventors' Award competition held on 21 Mar '15. Check them out!



Want to reduce your home utilities bill? Then get this gadget for your home! Called the "Energy-rationing Switch for Fans", this plugin device will reduce an electric fan's energy consumption by 15%. Working on the same principle as energy-saving refrigerators, it cuts off and reactivates the power to the fan alternately, without any visible reduction in the speed of the fan's blades.

The "CID Shield" is a new generation police shield which comes with powerful LED strobe lights to momentarily stun or blind the offenders (while also lighting up the place), as well as a built-in camera which can capture and relay footages to a control centre, thereby allowing police commanders to monitor the ground situation remotely and in real time





"Earresponsible" is an Android app which allows users to test whether the volume at which they normally listen to music on their mobile devices is "safe". If the safe level is breached, a red light in the app flashes. This system aims to raise awareness of noise-induced hearing loss, especially among today's youths.

"Rekindle" is a revolutionary mobile app which allows passers-by who stumble upon an elderly folk who has lost his way, to inform the person's next-of-kin. The passer-by simply needs to scan a QR code on the elderly person's attire and key his location into the app. An SMS message will then be sent to the next-of-kin.





"SWAT" is a smart water-tap system, designed for public restrooms, which will dispense just the right amount of water that a user needs, without compromising on water-saving. Users can regulate how much water they want by activating one of 2 different sensors to dispense different amounts of water.

SEA GAMES 2015

Students and alumni from our School of Engineering helped Singapore to its best Games performance.

Team Singapore capped a magnificent performance at the 28th SEA Games held in Singapore from 5 – 16 Jun '15, winning a total of 259 medals – 84 Gold, 73 Silver, and 102 Bronze medals – and smashing 25 Games records on their way to making this Singapore's best-ever performance in the Games.

Temasek Polytechnic students (both past and present), taking part in various sporting events, had the honour of contributing 7 Gold, 4 Silver and 18 Bronze medals to Team Singapore's final tally. Of these, 3 Gold, 3 Silver and 11 Bronze medals came from our School of Engineering.

Rank	Country		(6)		Total
1	THAILAND	95	83	69	247
2	SINGAPORE	84	73	102	259
3	WIETNAM	73	53	60	186
4	MALAYSIA	62	58	66	186
5	INDONESIA	47	61	74	182
6	PHILIPPINES	29	36	66	131
7	WANMAR MYANMAR	12	26	31	69
8	CAMBODIA	1	5	9	15
9	LAOS	0	4	25	29
10	BRUNEI	0	1	6	7
11	TIMOR LESTE	0	1	1	2

Name	Sport	Diploma	Year of Graduation	Former Sec School	Results
Lee Mei Shuang	Aquatics (Sync Swimming)	Aviation Management & Services	2016	Singapore Sports School	2 Gold 1 Silver
Kang Rui Jie	Taekwondo	Aerospace Electronics	2016	Ngee Ann Sec	1 Gold (Individual) 1 Bronze (Mixed Pair)
Lee Mun Hou Samson	Fencing	Mechatronics	2008	ITE	1 Silver (Team) 1 Bronze (Individual)
Nur Ashriq Ferdaus bin Zul'kepli	Hockey	Aerospace Engineering	2014	Seng Kang Sec	1 Silver
Tan Chun Leng	Traditional Boat Race	Computer Engineering	2010	Seng Kang Sec	3 Bronze (Team)
Muhammad Farhan bin Aman	Sepak Takraw	Electronics	2008	Bedok North Sec	2 Bronze
Larry Liew Hua Sen	Basketball	Green Building & Sustainability	2014	North Vista Sec	1 Bronze
Loh Zhi Ying	Dragon Boat	Business Process & Systems Engineering	2012	North Vista Sec	1 Bronze
Muhammad Zaki bin Mahmood	Rugby 7's	Business Process & Systems Engineering	2006	Ping Yi Sec	1 Bronze
Nur Fadzlyn bte Mohd Zahruddin	Taekwondo	Aviation Management & Services	2018	Tanjong Katong Sec	1 Bronze

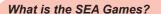


Kang Rui Jie won Singapore's first SEA Games Gold in TKD since 1999



Larry Liew on his way to a Bronze

Samson Lee making his point (Source: Getty Images)



The South-East Asian (SEA) Games, previously known as South-East Asian Peninsula (SEAP) Games, was first held in 1959 in Bangkok, when 6 countries took part in 12 sporting events. The Games name was then changed in 1977, as new "non-peninsula" countries joined the fray. Held biennially, the Games is hosted by participating countries on rotation, with Singapore hosting it in 1973, 1983, 1993 and 2015. Currently, 11 countries take part in 36 different sports in the Games.



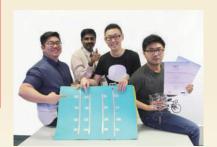
(Source: Asiaone.com

Guide dogs have been used to help blind people to move around. But they are difficult to train and not always welcome, especially in restaurants and hospitals. Our robotic guide dog is a viable alternative.



A ROBOT IS MAN'S BEST FRIEND

Our Engineering students won 3 Commendation awards, a Best Presentation award and a Best Poster award in the annual Assistive and Rehabilitation Technology (ART) Student's Innovation Challenge 2015.



Interactive Body Balance Evaluation Kit (Commendation)



Hearing Health Screening Test (Commendation)

The Robotic Guide Dog

Called "Follow Me", this robotic guide "dog" for the blind, developed by four students from the Diploma in Media & Communication Technology, looks nothing like a dog. But it could be smarter than the best-trained guide dog.

Equipped with a Kinect camera that pans up and down, this robotic "dog" can detect obstacles, including overhead objects. The position of the obstacle (left, right, above, or below) will be announced aloud through the speakers. This "dog" also recognises a "red man" at traffic crossings. Incorporating a GPS function linked to Google maps, it can also give navigational instructions to the blind user – something a real dog cannot do.

The project won a Commendation award in the ART Students' Innovation Challenge held on 26 & 27 Mar '15.

THE FLYING GLOBE



An original, hand-crafted, remote-controlled spherical flying machine, designed by our Aerospace and Aviation students, won the "Best Creative Design" (Silver) award at the annual Singapore Amazing Flying Machine competition, held on 21 Mar '15.

It was the only sphere-shaped flying machine in the competition. Project Supervisor, Mr Kuschel Matthias Christian, explained the advantage of such a unique design: "The propellers are fully enclosed in the spherical frame, so the flying machine will not be damaged if it hits an obstacle. It is also safer and will not injure passers-by. In addition, if it drops on the ground, it is able to right itself and resume flight," he enthused.

The second Silver award came from Team "Clampcopter", comprising students from the Diploma in Electronics, which emerged 1st runner-up for "Best Video" in the Open category.

Graduation 2015

About 1,500 Engineering students received their diplomas over 5 graduation ceremonies held on 18 & 19 May '15 at Temasek Polytechnic's Convention Centre.

Congratulations to all graduates!



METICULOUS

SUCCESS

One of our top students to graduate this year, Estella Koh, is a unique talent with a passion for meticulous research.



With a colleague during her internship at Pratt & Whitney



Receiving her diploma and awards from Senior Minister of State Indranee Rajah, in the presence of her elated parents

Four years ago, **Estella Koh Siew** Lee applied for the Mechatronics & Aerospace Programme (MAE) at Temasek Polytechnic through the Direct Poly Admission (DPA) exercise, which is held in June each year. "The DPA allowed me to lock-in the course of my choice, even before I sat for my 'O' level exams, and I would still get the same diploma as my peers, so why not?" she said, recalling her decision to apply through the DPA.

Today, she has no regrets. She was accepted into the MAE course, which allowed her to stream into the Diploma in Aerospace Engineering in her second semester.

In line with her passion for meticulous investigation, Estella had helped to verify audit findings during her 4-month internship in the Quality Assurance Department at Pratt & Whitney Canada (Singapore). The enriching experience allowed her to learn about the SAR-145 regulatory framework of 8 different countries.

She graduated with a Diploma in Aerospace Engineering (Merit) with a CGPA of 3.96, winning the Course Bronze

medal. For her excellence in her studies as well as her CCA – she was President of the TP Salvo Drums group – Estella was also conferred the prestigious All Round Excellence award.

Currently pursuing a degree in Aerospace Engineering at NTU, she aims to become an Aviation Researcher, delving into the depths of air disasters to ascertain the causes of air crashes and the preventive measures that would make air travel safer for everyone.

"Each time I hear about an air disaster, I feel very hurt that innocent lives have been lost. I would like to do something for the aviation industry, as well as for the millions who travel by air," said the resolute 20-year-old former student of Compassvale Sec School.

With Estella on board, perhaps the safety of air travel will indeed be greatly enhanced in the near future.

WE ARE 25!

2015 is the year Temasek Polytechnic turns 25.

As part of the celebrations, a 25-hour charity run was held on campus to raise \$25,000 for two local beneficiaries – Club Rainbow and All Saint's Home. Flagged off at 5.00pm on 7 May '15, the run saw 1,732 Engineering staff, students and alumni running a total of 7,226km, contributing to the TP target of 25,000km.

Engineering students also set up stalls along the concourse to raise funds for financially challenged students as part of the biannual Campus Care Network (CCN) Day carnival on 29 Apr '15.









GET SNAPPY!

Do you enjoy taking photographs? Have a go at our Green Building Photo Competition and win up to \$500!

FACETS 2015

Green Building Photo Competition

Theme: Shading Systems in Green Buildings in Singapore

 1st prize:
 \$500

 2nd prize:
 \$300

 3rd prize:
 \$200

 Voters' Choice:
 \$100

 Four Merit prizes:
 \$50 each

The competition is open to all secondary school students in Singapore.

Each contestant may submit up to 5 photographs.

Submit your photos via Instagram (**#gbsfacets2015**), or email to: **GBS_T29@tp.edu.sg**

Closing date: 30 Sep '15.

Participants are entitled to sign up for a free photography workshop.

Register here: http://bit.do/facets2015

Prizes are sponsored by the Singapore Green Building Council (SGBC).

FACETS 2014 Results

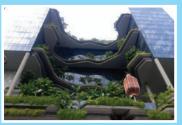
Theme: "Gems" of a Green Building



1st prize by Ong Wei Ching (Cedar Girls' Sec)



2nd prize by Tan Guan Ming (AMK Sec)

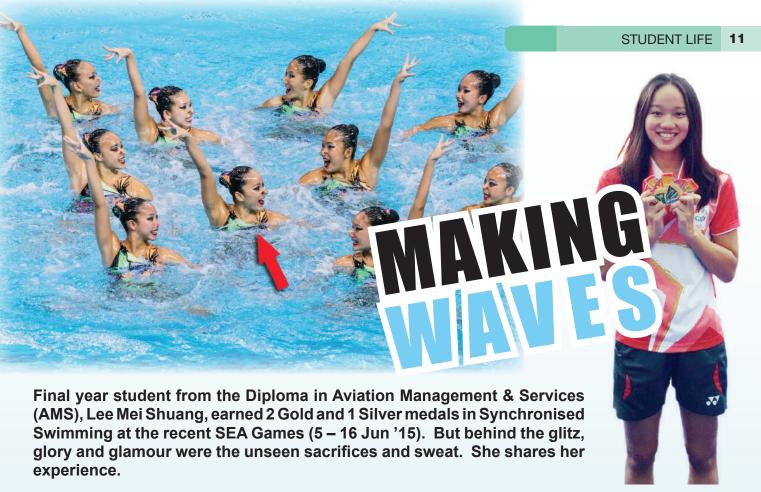


3rd prize by Dillon Ong (Bedok View Sec)

Voters' Choice: Tan Guan Ming (AMK Sec)

Merit prizes: Shee Yi Xin, Isabel Lim, Tan Yong Hui (Ngee Ann Sec),

Steven Wei Kai Tam (Tanjong Katong Sec)



By Lee Mei Shuang (AMS)

It was a long arduous journey which began when I took up Synchronised Swimming in Primary 5. When I was in the Singapore Sports School, I went for the trials and was selected for the national team.

Preparation for the 2015 SEA Games was hectic. We trained 8 times a week, for about 6 or 7 hours each time – with no breaks in between. Even when we got really tired and hungry, we had to push on. And contrary to what most people think, the water doesn't protect you from the scorching sun!

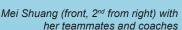
Other than practising our routines, we had to speed swim and even go for acrobatics classes! As compared to being in the water, I found land acrobatics a tad too demanding and injured my back as a result.

As Sync Swimming is very much a team sport, we had to make sacrifices for one another too. When executing a formation, for instance, we had to reach our assigned

positions at a specific count, so in order to be in sync, every member has to swim the same distance, even if it means making a detour and coming back to where you are! It's really maximum team work in action!

The months leading up to SEA Games 2015 were indeed hectic and tiring, having to cope with training and my school work. But I was fortunate to have extremely supportive and caring AMS lecturers and classmates who helped me a lot with my studies.

Definitely, taking part in the Games entailed a lot of sacrifice. But when I stood on the rostrum and heard the "Majulah Singapura" being played, I could not help but feel that all the hard work and sweat had been worth it.





PLONEER EXPERIENCE

Four students from the Diploma in Integrated Facility Management (IFM) rendered community service at Starlight Residents' Centre in Tampines Street 72 in Jan & Feb 2015, spending two hours there each time. One of them, Brenda Neo, reports.

By Brenda Neo (IFM)

@Temasek Pouricennic



Brenda Neo (extreme left) and her IFM mates, Qi Pei, Phyllis and Shelia, with the senior residents

"Crabbed age and youth cannot live together", so says the famous poet Shakespeare in 1599.

But after interacting with the senior folks at the Centre, I find that nothing could be further from the truth. Just like with any new acquaintance, it only takes a little time and patience for us to understand them.

When we first met these elders at the Centre, we found that they tended to raise their voices when talking to us. Offended at first, we thought that they were reprimanding us. But as we began to understand them better, we realised that it was actually their way of speaking when they got excited, especially when expressing their happiness.

Besides chatting with the elders, we also played games with them, while they taught us how to bake cupcakes and pineapple tarts, and how to make lanterns using red packets - which we later used to decorate the place for Chinese New Year.

It was indeed an enriching experience getting to interact, work and play with these senior citizens – our pioneer generation.

FIGURE IT OUT... =

And win a 16GB limited edition wooden thumb-drive!

You are given the composite function f(x + f(y)) = bx + cy where b and c are real numbers, $b \neq -1$ with x and y being real variables.

Find the value of $\left. f\left(\frac{1}{b} \right) \right.$ and the relationship between $\left. b \right.$ and $\left. c \right.$

Hint: If
$$f(z+a)=z$$
, then $f(z)=z-a$ and $f(0)=-a$

This contest is open to secondary school and ITE students only. Email your answers, with full name, school, and HP number, to: cheeseng@tp.edu.sg with the subject title, "Engineerrus Maths Puzzle 10".

The first 10 correct entries drawn after the closing date (1 Dec 2015) will each win a limited edition 16GB wooden thumb-drive.



Answer: The missing number is 8 (all columns add up to 19).

Winners:

(16GB limited edition wooden thumb-drive)

Chloris Lim (Bishan Park), Lo Ho Yin (Compassvale), Jolia Ong Yun Xuan (Manjusri), Ethan Tan (St Andrew's), Wu Tingxi (Bedok Town Sec).

ANSWER TO QUIZ #9

Answer: There are 42 ways to partition the number 10.

Main winners:

(\$12 McDonald's voucher)

Lee Zheng Wen (Northbrooks), Lee Zheng Yi (Orchid Park), Mohd Izzat bin M (Regent), Oon Yu Hui (Greendale), Ryyan Farooq (Siglap), Goh Chooi Teng (Jurongville), Jeremy Hang Zhi Chou (Seng Kang), Nur Kamiliah Bte MH (Pasir Ris), Sun Yilin (Dunman High), Joseph Kwee (Yusof Ishak).

Consolation winners:

(2GB limited edition wooden thumb-drive)

Lo Ho Tin (Compassvale), Lo Ho Yin (Compassvale), Peirce Chow Zheng Jie (Dunman High), Chong Wei Neng (Seng Kang), Jaren Teo (Regent), Royston Sim (Pasir Ris), Shi Zhansen (Commonwealth), Ruparaj s/o Raj Keemaran (Woodlands).

LIGHTING UP THEIR LIVES



Twelve students and two staff embarked on an Overseas Community Project to Aoral Province, Cambodia, from 24 March to 2 April 2015, installing solar lighting at Project Khmer Hope Centre and teaching basic English to the local children there. One of them, Zetty Nurlisda, shares her experience.

By Zetty Nurlisda (IFM)

Zetty (arrowed) and fellow volunteers with the local children

Project Khmer Hope Centre (PKH) where we stayed was no 5-star hotel. We had only four hours of electricity each day, from 6pm to 10pm. Water was limited too, so there isn't the luxury of washing your face or hands anytime you want, let alone taking multiple baths. Each meal catered for us comprised a plate of rice with just one dish – which is what the children there eat everyday too.

When I compared the life there to the living conditions in Singapore, I realise that I had been taking what I have for granted. The Cambodians appreciate what they have, rather than pine for what they do not have. Even under the most spartan conditions, they are all happy and cheerful.

We had expected to encounter the most frugal living conditions there. But what we did not anticipate was the extremely warm hospitality and friendliness of the staff and children there.

We interacted with the children, playing games and teaching them at the same time. Most of us developed special bonds with them and to be honest, we were kind of emotionally devastated when it was time to say goodbye.

The experience in Aoral had forced me to step out of my comfort zone, to experience a new culture altogether. Seriously, it was an eye-opener.

At the same time, I am grateful to have been given the chance to add some value to the lives of the children. The solar lamps we had installed there will continue to shine brightly, lighting up their lives and reminding them that there are people who care for them.



TAPPING ON OUR TECHNOLOGY



Many home owners today equip their water taps with a filtration system to remove chemical contaminants such as heavy metals, organic compounds or chlorine from their tap water.

However, failing to change the filter cartridge in a timely manner will not only render the filtration system ineffective, but it may even contaminate your water further.

To solve this problem, two Mechatronics lecturers and their students, working with industry partner Hyflux Ltd, have designed a tap with a built-in smart water filtration system which will alert the user once the filter cartridge is due for replacement.

While most smart water filtration systems track how long a filter cartridge has been in use, this new system is able to detect how much it is used – that is, the amount of water that has passed through the filter – before alerting the user, thereby making it more accurate and economical.

Users are also able to select from two sources of water, namely water for drinking which comes through the water filter, and water for non-consumption purposes which by-passes the filter. This prolongs the lifespan of the filter cartridge.

How does it work?

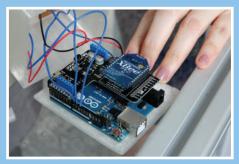
The tap is equipped with a flow-meter which turns 304 times for every litre of water that flows through it. Once 3,000 litres of water has passed through it (meaning it has turned 1.02 million times), an Arduino microcontroller inside the tap activates a transmitter which sends a Bluetooth signal to a nearby electronic control box.

A red LED lamp on the control box then lights up to alert the user that it's time to change the filter cartridge. At the same time, an SMS reminder is automatically sent to the user's mobile phone.

The flow of water is controlled by a customised ball valve that channels the water into two different paths, thereby allowing users to toggle between the two sources of water.



Mechatronics lecturers Lum Sin Ho and Chee Feng Ping with their invention



Arduino microcontroller inside the control box



Dual outlets for drinking and non-drinking water



A LADY'S DREAM

Nurul Rasyiqah had been in two minds about enrolling for an Aerospace diploma course to fulfil her ambition of becoming a Licensed Aircraft Engineer (LAE).

"It's a man's world, and I knew I'd be a rose among thorns," admits the former student of North Vista Sec School, who had an aggregate of 19 points for her 'O' levels.

Nurul then joined the Common Engineering Programme, and with the encouragement of her family and friends, she chose to stream into the Diploma in Aerospace Electronics after her first semester.

"Every Polytechnic has an aerospace-related course, but I chose Temasek Poly because it is the only Poly certified by the CAAS as a SAR-147 approved maintenance training organisation, which means I could get direct credits to shorten my professional apprenticeship later on," she rationalises.

Today, Nurul has no regrets. She graduated with a Diploma in Aerospace Electronics in May 2015 with a cumulative GPA of 3.83 and is currently a Junior Aircraft Maintenance Engineer at Hawker Pacific Asia Pte Ltd,

performing maintenance tasks such as the inspection, repair, modification and testing of aircraft.

"I'm still basically a trainee learning on the job from the Licensed Aircraft Engineer," explains the docile and hardworking apprentice, who expects to get her LAE licence in about 2.5 years' time.

It's a long road ahead, but Nurul is determined to stay the course. "Being an LAE is a heavy responsibility, because you are accountable for the serviceability of the aircraft and the safety of all those in it," she reasons. "But that's what makes the job so challenging and interesting!" she excites.

But what if she is the only female at her workplace? "That would be great, because then all the guys will pamper me!" she jokes.

But the tough and independent goal-getter certainly didn't join the aerospace industry to be pampered. "Seriously speaking, I'm sure I can do as well as any guy out there, if not better!" she declares.



Inspecting the drain traps of an aircraft at Hawker Pacific



Flashback: Nurul (centre) on her Graduation Day



Flashback: Nurul (arrowed) during her training stint at the TP-Lufthansa Technical Training Centre on campus

CAMPUS MAKEOVER

The School of Engineering campus may be 20 years old, but most of its facilities and equipment are new, thanks to an extensive renewal programme over the past 2 years which saw new facilities being added, and existing ones getting a thorough makeover.

A new West Wing building has been added and now houses the Temasek Aviation Academy, including an industry-sized aircraft hanger and state-of-the-art aerospace training facilities.

Classrooms have been upgraded in stages and transformed into spanking new study spaces with clusters of tables to facilitate group work and student learning, while the gloomy and cramped walkways of yore have become spacious corridors lined with desktops to serve as standing work stations for laptops or even charging stations for mobile devices. In some classrooms, every cluster of tables is even equipped with a PC for project presentations.

The renovation works are part of the School's efforts to give our students a more positive learning experience – and a bright future.





ENGINEERING DIPLOMA COURSES



COURSE ENQUIRIES **Tel:** 6780-5144

Email: enghotline@tp.edu.sg **Website:** www.tp.edu.sg/eng

Facebook: facebook.com/TP.Engineering **YouTube:** youtube.com/TPEngSch

- 3D Interactive Media Technology
- Aerospace Electronics
- Aerospace Engineering
- Aviation Management & Services
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- Clean Energy
- Computer Engineering
- Electronics
- Green Building & Sustainability
- Infocomm & Network Engineering
- Integrated Facility Management
- Mechatronics
- Media & Communication Technology
 - Microelectronics

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- Electrical & Electronic Engineering Programme
- Mechatronics & Aerospace Programme

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Outreach Marketing Executive: Angela Cheong
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