

IGNITE

Be Inspired.

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Ignite is Temasek Polytechnic's School of Engineering eMagazine for students.



FROM THE EDITOR'S DESK

This is the first issue of IGNITE, a student magazine from TP's School of Engineering and my first editor's note. It is a momentous occasion to celebrate the inaugural issue of IGNITE as the name was proposed by our very own Engineering students.

IGNITE /ig'nɪt/ is a verb meaning to "kindle, trigger, spark, instigate, excite". We hope that this student magazine will not only excite you but also inspire you to be adventurous and go on journeys that go beyond the basic definition of success. We hope our student features such as Kew Yi Hong, Bryan Cheung and Noorhakim Jasman will motivate you to greater success in all aspects of your life.

My vision as Editor is to create an authentic, inspiring and fun magazine that makes you ask the question, "That's an amazing story, if she/he can do it, why not me?" I want you to feel that you are able to succeed and achieve your goals no matter what, as our inspiring student stories will show you. Most importantly, I want you to know that success is not limited to mere paper qualifications, that you can be authentic and be yourself and find success through your learning journeys and experiences.

In this issue, we feature genuine human interest stories about our students, staff, what our students have been up to in the poly and how they made learning fun and meaningful. I wanted the stories behind the people to inspire you and also provide you with the roadmap on how you can also achieve your goals and dreams in your own unique way.

All these would not have been possible without the team behind the magazine; Jacqueline Teo, Katherine Rajah, Angela Cheong and Ken Tharm – THANK YOU for your support! Also a big shout-out to Edwin Loo, the former editor of this magazine's predecessor, Engineerrus – Thank You for your dedication and contribution!

And of course you, thank you for reading.

xxx

Fairuz

Fairuz Said Abdul Rahman
EDITOR

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5 FUN FACTS YOU NEED TO KNOW ABOUT TP

For those who have not visited TP's campus, here are some fun facts you need to know. Come and visit us at the next Open House in January 2019!

#01

Best Poly Ever

It's the best poly ever, where you have a good balance of academic success and life beyond the classroom. You get to enjoy a vibrant campus life, experience different student activities and graduate with your chosen diploma. Royston Tan, Sylvia RatoneI, Priscelia Chan and Daryl Yong are among our notable alumnus.

#02

Coollest Campus in SG

Definitely the coolest campus in SG as we are situated right beside Bedok Reservoir! Nestled among lush greenery and an amazing view of the reservoir, you can catch our dragon boat hunks and babes in training or simply enjoy a scenic walk or run.

#03

Food, food and more food

McDonald's, Subway, our very own air-conditioned Flavours canteen, four other canteens, an onsite bakery and restaurant run by our very own Temasek Culinary Academy students. Not only do you get good food, the prices are very affordable. Spicy Nuggets - \$1 for 3 pieces @ School of Engineering's Short Circuit canteen is always a big hit during breaks! Not to mention, you have options such as Domino's (across the road), Nando's, Swensens, Long John Silver, and many more at Our Tampines Hub, Century Square, Tampines Mall and Tampines 1. Best part, we are in the East, food haven of Singapore! **#thestruggleisreal**.

#04

Fittest Campus & Students

Now, with all that amazing food, how about some exercise? With a 50 metres competition pool, a training pool, a stadium, running track, fully equipped gym, tennis courts, indoor courts for badminton and squash, there's no way you are short of options. Plus, you have the scenic Bedok Reservoir waters and jogging track right next to campus! You can never say **#Nomoreexcuses** for a good workout!

#05

Tampines West Station, Downtown Line

With the opening of Tampines West Station last year, students and staff will now have an easier and more convenient route to campus on the Downtown Line. Only a short 10-minute walk, this will help you enjoy all the good food on campus while keeping you trim and fit!

DETERMINATION, DEDICATION & DISCIPLINE

A feature on KEW YI HONG, 2018 SAF Merit Award Recipient



A recipient of the 2018 Singapore Armed Forces (SAF) Merit Scholarship, TP's graduate from the Diploma in Aerospace Engineering, Kew Yi Hong showed outstanding academic performance and attitude during his studies. IGNITE spoke to his former Communication Skills lecturer, Fairuz S A Rahman, who was very impressed with Yi Hong's hunger and enthusiasm for knowledge.

Yi Hong (Top left) with selected scholarship recipients at the Defence Scholarship Awards Ceremony at The Istana in July

Photo: MINDEF

What do you remember about Yi Hong?

Kew Yi Hong is a rare breed of student, an individual who knows exactly why he enrolled in the Diploma in Aerospace Engineering, what his dreams are and how he is going to achieve them. Coupled with his passion, lots of hard work and an outstanding positive attitude, Yi Hong graduated second in his cohort in aerospace engineering, with a Diploma with Merit and a perfect GPA of 4.0 in 2016.

Recently awarded the SAF Merit Scholarship on 20 July 2018, Yi Hong joins the prestigious list of talented individuals who have demonstrated academic excellence and dynamic leadership qualities. There are 16 recipients for the SAF Merit scholarship in 2018, in which only 2 are from the polytechnics. Currently serving in the army as a Lieutenant, Yi Hong, now 22, will be studying aerospace engineering in Nanyang Technological University next year.

What made Yi Hong an outstanding student?

Yi Hong stood out from among all the students I have taught as he showed great initiative, a strong desire to learn and improve, passion and diligence in all he did and most importantly, his ability to listen and wanting to make a difference. His dedication and discipline helped him attain the Director's List Award for being in the top 10% of his cohort, for 2 consecutive years in 2014 and 2015. He was also awarded a Lufthansa Technical Training (LTT) Scholarship for his good performance during his basic aircraft maintenance attachment at the Temasek Polytechnic-Lufthansa Technical Training Centre Singapore (LTTS) in his final year.

How can Yi Hong's achievement inspire us?

Yi Hong enrolled in Temasek Polytechnic with an impressive aggregate of 9 points, for his ELR2B2 "O" Levels, scoring 'A's in Maths and Science subjects. He continued to work hard by excelling in his diploma course. In addition, Yi Hong was involved in mentoring at Tampines West Community Club for the 3 years he was in TP, where his exposure to these activities had taught him to have more gratitude for life. He continued this giving nature when he decided to sign on with the army in October 2016.

In a recent article published in The Straits Times titled, "Record number of applicants, greater diversity for SAF and Mindef scholarship this year" on July 20, 2018, Yi Hong who is now a platoon commander in guards said, "I signed on first with the purpose of nurturing others, and my unit commander told me to apply for the scholarship. After I found out more about the scholarship, I thought if I managed to get it, it would give me a lot more exposure to this sector of defence and can allow me to contribute better to the people I'm leading." Yi Hong added, "I think not many polytechnic students know about this scholarship, but more should try it out because at the end of the day, it's about merit."

What can we learn from Yi Hong?

That motivation is only one part of achieving your goal. It is consistent hard work, discipline and the desire to want to learn that will help you succeed. Most importantly, always remain humble and strive to always be better than yesterday!

FROM EM3 TO A PLACE IN SINGAPORE INSTITUTE OF TECHNOLOGY (SIT)

Angela Cheong spoke to BRYAN CHEUNG, a Diploma in Aerospace Electronics graduate who took a slightly longer route from EM3, 'N' Levels, ITE & TP. Currently waiting for enlistment into National Service, Bryan has secured a place in the Bachelor of Engineering with Honours in Aeronautical Engineering programme at SIT - University of Glasgow. We hear from Bryan how he overcame the odds and became a success story.



Bryan Cheung during his Lufthansa Technical Training (LTT) attachment in Temasek Polytechnic

“Recalling back to my secondary school days, I never thought I would have the chance to study in a polytechnic as I was not from the best stream in school. But now, I am glad that I have graduated from Temasek Polytechnic and have been given the opportunity to further my studies. It was a difficult and challenging path, but my determination and perseverance kept me through this tough journey.”

As a graduate from Temasek Polytechnic with a Diploma in Aerospace Electronics and a Plus Program in Management and Enterprise, Bryan's education journey can be an inspiration to many. He came from humble beginnings as he was streamed to EM3 during his primary school education and went on to Normal Technical in his secondary school years.

"Studying is not my greatest strength and I was notorious for being a student who always sleeps in class. However, the economic crisis in 2010 made me realise the importance of having a good education" Bryan shared. Since then, he pushed himself to study hard for his 'N' Levels and his efforts paid off as he topped his school's 'N' Levels results, at the same time receiving the Most Outstanding Student Award. Unfortunately, his results did not qualify him for GCE 'O' Levels due to his English Language result, which left him disappointed.

He chose to continue his education journey at ITE College (Central) due to his passion for aircrafts and graduated with a NITEC in Aerospace Avionics "Although there is a perception that ITE students may not be as bright as others, I did not feel that way. Instead I felt that it was a new beginning for me! During my days in ITE,

I gained expertise and knowledge on aircrafts, such as Aircraft General Maintenance. On top of that, I was also given the opportunity to have my internship at SIA Engineering Company." Bryan shared. After graduating from NITEC in Aerospace Avionics at ITE, Bryan was disappointed with his results as his GPA score was 0.2 points away from being eligible to apply for a place in a polytechnic. However, he still went ahead to apply and when the results came in, he was overjoyed as he had made it to the Electrical Electronic Engineering Diploma Programme (EEEP) in Temasek Polytechnic.

During his early days at Temasek Polytechnic, he struggled with the modules, even failing his term test in his first year. Thankfully, the school provided extra lessons known as the Learning Support Program, which

"The economic crisis in 2010 made me realised the importance of having a good education."

catered to students who needed extra coaching in the modules. By the end of the first semester examinations, he managed to achieve the top 10% of his cohort, which gave him the opportunity to gain entry to the Diploma in Aerospace Electronics and Diploma Plus Program in Management and Enterprise.

Bryan was also given the opportunity to complete his Overseas Student Internship Program (OSIP) in France, and had the honor of being the first batch of Singaporeans to do an internship at the Airbus Headquarters in Toulouse, France. His internship allowed him to travel around Europe to cities like Paris, Bordeaux and London! For Bryan, life in Temasek Polytechnic was not just all about studying. He was actively involved in various clubs and projects and went on to hold leadership roles, such as President of Project INNOV8 and Vice-President of the Engineering Makers Club. These opportunities allowed him to acquire and hone his skills in leadership, communication and management.



Bryan in Paris, London and at Airbus HQ in Toulouse, France during his Overseas Student Internship Program (OSIP)

Photos: Bryan Cheung



DAD'S SACRIFICE MOTIVATED HIM TO ACHIEVE A PERFECT GPA

We talk to **NOORHAKIM B JASMAN**, the gold medallist from the Diploma in Aerospace Electronics on his motivation in attaining a perfect GPA of 4.0.



Noorhakim graduated as the top student of his course with a Diploma with Merit and a Diploma Plus Program in Psychology Fundamentals, attained a perfect GPA of 4.0 in his six semesters, and was awarded the Director's List Award (top 10% of the cohort) twice in his course. He will pursue a degree in electrical and electronic engineering at NTU upon completion of his National Service.

Noorhakim also shares his top 5 tips on how you can succeed in your studies. We hope you use these tips to be as successful!

Photos:
Muhammad Fadly
Bin Mahdar
from TP Corporate
Communications



Why did you choose the Diploma in Aerospace Electronics?

Since young, I have always marvelled at how planes could carry such heavy loads and transport people from one place to another safely. Moreover, as both my parents are from the aviation industry (dad is an ST Aerospace technician and mom is a former SIA cabin crew), it fuelled my interest in studying airplanes. Hence, I joined the Diploma in Aerospace Electronics course.

What were your motivations to do well in your studies?

I wanted to study hard in polytechnic to secure a place in a local university as I did not want to burden my family financially. Looking at how my dad, who is the sole breadwinner of the family, constantly working overtime for us made me realise that doing well in school is the least I can do for him. Moreover, I personally wanted to do my best and have no regrets so that when I reflect back, I can always tell myself that I can achieve anything if I really set my mind to it.

How did I achieve a perfect GPA of 4.0 in my 3 years at TP?

Constantly achieving a perfect GPA every semester is difficult, but certainly possible if you are willing to put in the sheer hard work.

I had to monitor my score attained for every quiz, assignment, project and term test to give me a rough idea of how much I needed to score in the final exam to achieve my desired grade. Personally, I ensured that I prepare well for everything even if a quiz has a small weightage of 5% as all of these small percentages can add up.

Honestly, there were times when I felt I was not going to achieve my goals but with the support of my family, it really gave me the motivation to push through any setback or obstacle. Always tell yourself if others can do it, I can too!



TOP 5 TIPS ON HOW TO SUCCEED IN YOUR STUDIES

By Noorhakim Jasman

#01

Goal Setting

To succeed in anything, you must set goals. Take some time to set personal goals that you want to achieve. It could be academic or non-academic. Put those goals up somewhere you can see them every day to remind yourself. It's always better to know what you are striving towards to!

#02

Preparation is Key

Read ahead of your lectures. Familiarise yourself with the content before it is taught so you won't be lost in class! Moreover, attempt your tutorial questions by yourself before attending tutorials (don't copy from your classmates!). This would enable you to know what content you need to revisit if you have difficulty answering some questions. Attempting the tutorials would also help you in class participation!

#03

Tap on Resources Given

Utilise learning resources such as the TP-LMS sites and the library to enhance your learning. Exam papers can be found as well for you to practice! Some exam questions might also be found from textbooks in the library.

#04

Time Management

Knowing how to manage your time is essential if you want to do well. Don't procrastinate! It's always better to work on your project or an assignment a little everyday rather than leaving it till the last few days before submission! Don't get penalised for late submission, it is truly a waste.

Print the schedule for every module and put it somewhere you can see every day. Highlight the important dates such as quizzes or assignment deadlines and prepare for them.

A lecturer gave me this useful table which helped me during my time in polytechnic and I will continue to use this in the future. Plan your tasks and work on them according to this 4-quadrant table.

1. Urgent and important	2. Not urgent but important
3. Urgent but not important	4. Not important, not urgent

#05

Participate on School Activities

There is a plethora of activities for you to participate in during your polytechnic studies! Personally, I wanted to gain as much global exposure as possible. Thus, I signed up for numerous Overseas Community Projects (OCP) and study trips during every semester break! Having such trips also made me more motivated to work harder during the semester as I know that I can look forward to a meaningful trip at the end of the semester!

By all means, pursue a CCA as it's a great platform to meet new people and try new things but always keep in mind that GPA is still your ticket to a local Uni or a great job.

2019 GREEN BUILDING PHOTO COMPETITION

Did you know that TP’s School of Engineering started their annual Green Building Photo Competition in 2014?

In 2017, we had close to 125 participants and 20-25 secondary schools taking part. Cash awards, including a first prize of \$500 were awarded to the top three, merit award and a voter’s choice award. Selection was based on Instagram votes.

So, keep a lookout for this upcoming photo competition in the first half of 2019 and win exciting prizes! Your winning entries will also be featured in the next issue.



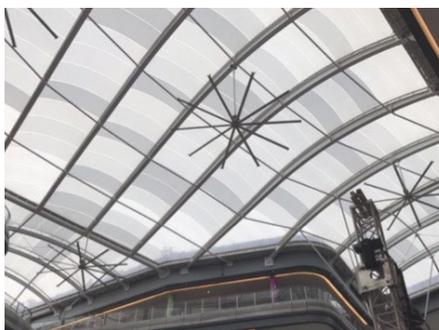
First Prize
Ng Kai Ting Tricia
Ngee Ann Secondary School



Second Prize
Chew Yun Yi
Cedar Girls’ Secondary School



Third Prize
Ng Min Xuan Mildred
Crescent Girls School



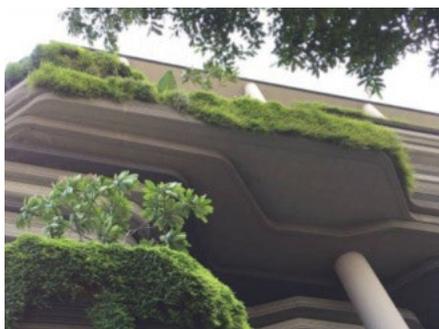
Merit
Ko Wen Xuan Daneesha
Temasek Secondary School



Merit
Lim Zheng Xiong Dion
Hougang Secondary School



Merit
Jennnicia Low
East Spring Secondary School



Merit
Lim Jia Swen Chloe
Pei Hwa Secondary School



Voter’s Choice
Chai Jia Cheng
Raffles Institution

What is the competition about?

To create awareness about green buildings among secondary school students using ‘photography’ as a tool for expression.

How do you participate?

The competition is based on a theme related to sustainability such as daylighting, shading systems & green buildings@sg. Entries are submitted through Instagram with a caption.

HOW DO YOU BECOME THE BEST TRAINEE DURING YOUR INTERNSHIP?

IGNITE sits down with Neoh Han Wei, a Diploma in Aviation Management Third Year student who was awarded the Best Trainee during his JetStar Internship



2nd from right, Han Wei with his crew mates & TP Supervisor, Brandon Seow, (centre)

What makes a great intern?

Diploma in Aviation and Management (AMS) student, Neoh Han Wei share his tips to becoming one, while winning the 'Best Trainee' Prize for his cohort during his internship with JetStar.

Han Wei had applied for the Jetstar cabin crew internship to broaden his insight into as well as gain the perspective of the aviation industry through the demanding, yet exciting role of an airline cabin crew. As part of his cabin crew training, Han Wei learnt about cabin and flight management, aviation security, emergency procedures, cultural awareness and first aid procedures.

Han Wei received favourable feedback from his TP Supervisor, who commended him for his adaptability and ability to work well in multi-cultural teams. Han Wei is bilingual and has good interpersonal skills, which are crucial skills as his fellow trainees were from different nationalities. Coupled with his diligence and hardworking nature, Han Wei was able to provide passengers with a memorable and safe flight experience.

We caught up with Han Wei and asked him about his internship experience with JetStar.

What was the most memorable experience in your JetStar SIP?

Every flight is a different experience. Even in ground school during the 5 weeks of initial training, everyday was different. There is no most memorable experience because I feel that this whole internship experience as a cabin crew would be a memorable one. Different types of crew, different types of passengers and different types of situations.

Maybe down the road, I would have one most memorable experience but up till now, I only had 4 assessment flights and 1 solo flight thus far, so I have not much experience in-flight.

Share with us the most challenging moments during your JetStar SIP.

The last 10 days of training where we had to memorise all safety and emergency procedures and complete theory and practical examinations. It looked impossible in the beginning but with the immense effort of the trainers (Farah and Raini), I managed to complete the 10 days and even achieved 98% for the theory exam which was the highest mark in class.



Share with us how TP has prepared you for this internship?

The topics covered in the ground school were relatively easy and very manageable for me because it was taught to us in school. A brief example; aviation terminologies covered in Airfield Systems, aircraft features covered in Principles of Aeronautical Science, customer service skills, covered in Airline Operations, airport equipment and features covered in Airport Systems. Here is where the lecturers' stories become useful because if you really listen and absorb to them, it helps us in understanding the aviation industry a little more and understanding the situation more. All in all, the knowledge I have gained from my diploma really helped me in my internship because I feel that everything taught is familiar in one way or another.

Why did you choose to study the Diploma in Aviation and Management?

I chose to study the Diploma in AMS because I wanted to be a pilot since young and from the course's introduction on the TP website, I felt that I would gain aviation knowledge from it and help me to achieve my dream. I also saw that I could intern as a cabin crew, which was very interesting as it is a job where not many can experience.

What was/is your motivation to succeed in this internship?

I wanted to do well in this internship because I see the company as a potential employer in the future. By achieving good results and good feedback from the company's seniors/management/trainers, I would increase my chance of being employed in the company in the near future.

What advice will you give future trainees who are interested to do an internship at Jet Star?

Being accepted as a cabin crew is dependant on luck because in the interview, there really is no correct answer to reply to all their questions. I have had interview experience with Scoot so I see the similarity in the types of questions both companies ask. But once you get into Jetstar, just give your best and be keen to learn.

The initial training might just be the easiest part of the internship. Once you become an operating crew, you lose your freedom as you have to sleep early to have energy for the next day. You can't be feeling sleepy during flight or you will jeopardise the safety of others.

You must know the type of aircraft you're flying on the day, what type of equipment and the location of it. You must also have first aid knowledge and know the topic of the month because questions will be asked during the Pre-Flight Briefing.

Although it is an exciting job, the job can also get stressful at certain periods of the day so you have to be able to adapt and be flexible to different situations. I really believe that my internship as a cabin crew has benefited me because it has prepared me well for the workforce and equipped me with the relevant skills needed as well as instilled a good sense of discipline in me.

SCHOLARSHIP AWARDS FOR TWO ENGINEERING STUDENTS



Esther (middle row, fourth from left)



Esther (middle row, second from left)

Esther with her classmates in TP

The Daisy Phua Foundation Scholarship – Low Pei Yi Esther

Inspired by a flight crew's professionalism in handling a delay during one of her travels, Low Pei Yi Esther decided to enrol in the Diploma in Aviation Management (AMS) so that she can work at Changi Airport. Now, in her second year, Esther has bagged **The Daisy Phua Foundation Scholarship**, awarded to students with outstanding academic achievements.

In an interview, Esther said that she enjoyed her diploma course as students have their own aviation building that is equipped with advanced learning tools including flight simulators, visual illustrations, such as the 3-dimensional layout of the airport and hangar that allow TP lecturers to conduct lessons differently from the usual methods and made lessons more hands-on and engaging. "We also have very passionate and caring teachers who will go the extra mile when we need help. Do not worry because the teachers are always willing to guide us."

Esther's advice for students who want to pursue the Diploma in Aviation Management, "Lastly, with the aviation industry growing rapidly, getting a job once you graduate is not a problem. Moreover, since Changi Airport terminal 5 will soon be commercialized, there is even more jobs for us once we graduate."



Joel (second from left) with his classmates in TP

The Seah Moon Ming Foundation Scholarship – Joel Lau Teck Ern

Awarded **The Seah Moon Ming Scholarship** for two years (2018-2020), Joel Lau Teck Ern is an exemplary student and role model who balances both his studies and CCA well. As the Head of Training in Fusion Percussion, an arts CCA in TP, Joel not only leads members in his group to be the best, he is also responsible for coordinating the music for their performance. Currently a student in the Diploma in Clean Energy, Joel chose this course because he is passionate about the environment and is interested in the varied course content on offer such as Energy Management & Audit and Solar Cell & System.

Joel believes that excellence is not only defined by your academic performance, it also includes your attitude and character. His advice to all future first year students, "Firstly, one must have self-discipline. Most of the assessments in TP are manageable, not everything is difficult, and achieving an 'A' in a module is not impossible. However, all these will not come to reality if one does not have the self-drive to look through the lessons available online and revise the topics. Secondly, one must be kind. Kindness goes a long way when it comes to being in the polytechnic. I would not get to where I am if it were not for the kindness of my classmates who helped me to understand certain concepts and clarify my doubts. Lastly, one must have a balance. Life in TP is not just meant to be full on academic. As mentioned above, I am also part of the CCA, Fusion Percussion. In my own experience, it is through joining a CCA where one would grow the most in many aspects, such as time-management, leadership and confidence. It is also through a CCA that one would build closer bonds with your friends as we go through competitions, training, or performances together."

ENGINEERING RESEARCH SCIENTISTS WIN MOE INNERGY GOLD AWARD

Development of Additive Manufacture Plan for Dental Prosthesis



Dr. Liu Zhonghong, Alexander (left), Dr. Zhang Guangyu (right)

Award Name: MOE Innergy (Statutory Boards) Gold Award
Principal Investigator (PI): Dr. Zhang Guangyu
Co-PI: Dr. Liu Zhonghong, Alexander

A total of 27 entries were received for the MOE Innergy (Statutory Boards) Awards competition in 2018, and Temasek Polytechnic was awarded a Gold Award for the project, 'Additive Manufacturing for Dental Crowns'.

The objective of the project was to minimise labourious manual operations and manufacturing in dental labs by using the latest Additive Manufacturing (AM) technology.

This was the task undertaken by Dr Zhang Guangyu, Research Scientist from the Digital Fabrication and Additive Manufacturing Centre, School of Engineering, who joined TP 7 years ago and Dr. Alexander Liu, who joined TP two and a half years ago and who set up the additive manufacturing production line from scratch.

Let's take a look at the project facts. Congratulations **Dr Zhang and Dr Liu!**

Objective	To reduce the manual operations in dental lab manufacturing
Current Situation	Time taken for a technician to produce a PFM* crown: 1 per day. *PFM - Porcelain Fused to cobalt chrome Metal
Solution	With the use of Additive Manufacturing (AM) technology, 20 tooth per day can be produced.

