Young Engineers

LEADERSHIP PROGRAMME

Powered by IES, NTUC U Associate & e2i

2015 / 2016

EMPOVVER the Next Generation of ENGINEERS









Message from Secretary-General, National Trades Union Congress



Engineers have played a fundamental role in building Singapore into the country that it is today. From advanced technology to critical infrastructure, their passion for innovation has shaped the way we live, work, and play and, also contributing greatly to our successes.

As Singapore moves towards her next 50 years, we hope to inspire a new generation of engineers to design and build their dream Singapore. To equip new engineers to stay one step ahead of future challenges, NTUC has teamed up with our U Associate, The Institution of Engineers, Singapore (IES), to develop the year-long Young Engineers Leadership (YEL) Programme. Launched in August 2014, the inaugural programme successfully provided career development platforms and networking opportunities for some 250 engineers from 20 different industries.

Building upon the success of the YEL Programme, NTUC U Associate and IES have expanded the programme into a three-tiered Engineers Progression Pathway scheme to equip engineers with the necessary leadership skills as well as technological expertise and management to excel at all stages of their careers. Today, the scheme has grown to include the Advanced Engineering Leadership (AEL) Programme and the Global Engineering Leadership (GEL) Programme to provide a more holistic learning experience to the engineers, and to nurture leaders with global perspectives to guide Singapore's engineering community.

In addition to the Engineers Progression Pathway, other specially developed and curated programmes will be introduced to equip PMEs with the needed professional skills to thrive in a rapidly-changing knowledge landscape and global workplace. These initiatives to support the engineering profession are a critical part of NTUC's increased efforts to engage Professionals, Managers and Executives (PMEs) in Singapore, who are fast becoming the backbone of our changing workforce. NTUC and its U Associates are working on a sectorial approach to develop dedicated progression pathways for PMEs in sectors such as Information Technology, Human Resources, and Financial Planning among others.

With the continued support of our wide network of engineering unions from the manufacturing, chemical and electronics sectors, as well as training institutions such as Next U and funding support from e2i (Employment and Employability Institute), I am confident that the Labour Movement and IES will be able to shape future ready engineers that will thrive in Singapore's knowledge-driven globalised economy.

Chan Chun Sing

Secretary-General, National Trades Union Congress

Message from President, The Institution of Engineers Singapore



Young engineers hold the key to Singapore's future.

To sustain Singapore's economic prowess and high standards of living, we need young engineers to assume leadership positions in both the private and public sectors. We need them to champion new product innovations, steer the implementation of infrastructural projects and drive the growth of various industry sectors to bolster Singapore's future competitiveness.

However, while many young engineers may possess fundamental leadership traits, they lack the knowledge, experience and training to become successful leaders. The Young Engineers Leadership, or YEL, Programme serves to provide training, mentorship and networking opportunities to young engineers to sharpen their leadership, technology management, negotiation, communications and project management skills.

YELP is a key initiative of the career progression master plan of The Institution of Engineers, Singapore (IES). We are privileged to have the partnership of National Trades Union Congress (NTUC) in this meaningful endeavour to strengthen the employability of engineering professionals and build future leaders. It is also our privilege to have the support of various organisations that have sent their young engineers to participate in the YEL Programme or provided resources for us to achieve our goals.

More than 200 young engineers from more than 20 industry sectors have signed up for the first intake of YELP. Whether they are from the electronics, biomedical, aerospace, chemical or other industries, they are being put through a comprehensive course focusing on classroom-based knowledge sharing; practical training comprising dialogue sessions and networking opportunities with policy makers, C-level executives and industry leaders; as well as exposure-oriented training including site visits to engineering and technology companies of different sectors.

We are pleased to open up the programme for the second intake, and look forward to more young engineers to step forward boldly and passionately to pursue their dreams.

Are you ready to take charge of Singapore's future? Join the YEL Programme today.

Er. Chong Kee Sen

President,

The Institution of Engineers Singapore



About the Young Engineers Leadership Programme

The National Trades Union Congress (NTUC) and The Institution of Engineers Singapore (IES) have jointly created the inaugural year-long Young Engineers Leadership (YEL) Programme. Through this initiative, we are dedicated in grooming young aspiring engineers into exceptional leaders in their respective fields of expertise. We are committed to provide continuous engagements, career development platforms and networking opportunities for YEL Programme participants through memberships in both organisations.

The YEL Programme carries the theme of "Empower the Next Generation of Engineers" and features a stellar line-up of renowned engineers, C-suite leaders and entrepreneurs from locally and internationally grown organisations. Over 200 engineers will attend our monthly sessions held by esteemed professors and experts, which aim to train participants in the areas of technical, leadership and soft skills. Networking opportunities and sharing of experiences by our speakers will also be presented to all participants at every session.

The YEL Programme endeavours to equip and certify young engineers with the right set of skills required to succeed in the workplace while additionally providing opportunities to expand their network by connecting with fellow engineers, leaders and entrepreneurs.

About our C-Suite Speakers



Edwin Khew

Managing Director of Anaergia Private Limited and IES Fellow

Er. Edwin Khew is the Managing Director of Anaergia Private Limited, one of two Asian offices of the global waste to energy firm headquartered in Canada, and the Chairman of the Sustainable Energy Association of Singapore (SEAS), which is a non-profit organisation that represents companies in the industries of renewable energy, energy efficiency, carbon trading, and those developing clean development mechanism projects.

Mr. Khew is an entrepreneur who started multiple businesses, helmed international companies and nurtured start-ups to eventual success. He represents SEAS on the Asian Development Bank, leads the Energy for All Partnership's Steering Committee as its Co-Chair and is the Chairman of its Enterprise Development Working Group.

Mr. Khew is also a Fellow of The Institution of Engineers Singapore and Institution of Chemical Engineers (United Kingdom), and a professional engineer of the Professional Engineers Board Singapore.



Frederique Covington-Corbett

International Marketing Director of Twitter Asia Pacific, India, Middle East & Africa and Canada

Ms. Frederique Covington-Corbett is the Marketing Director of Twitter for the International markets covering Asia Pacific, India, Middle East & Africa and Canada.

Ms. Covington-Corbett was a Senior Director at Microsoft where she was the Central Marketing Organisation Lead for Asia Pacific. And prior to this role, she held a position as the Director of Marketing Communications within Microsoft's Consumer and Online business.

A veteran and proven leader in her field, Ms. Covington-Corbett's long career in marketing is punctuated by a multitude of awards such as the Golden Globe Tigers Award (2013) for the 50 Most Talented CMOs Worldwide, Microsoft Marketing & Operations Leadership Award (2012) and Internationalist of the Year Marketing Award (2012).



Henn Tan

CEO of Trek 2000 International Limited

Mr. Henn Tan is the CEO, Chairman and Executive Director of Trek 2000 International Limited, an industry leader, innovator, original inventor and patent owner of the ThumbDrive®.

Prior to the establishment of Trek 2000, Mr. Tan has accumulated more than 20 years of experience in the electronics industry at various Multinational Corporations such as NEC Semiconductors and Sanyo.

Mr. Tan was awarded the Ernst & Young Emerging Entrepreneur of the Year in 2002, Special Achievement Award by Asia Pacific Entrepreneurship Awards in 2010, Engineering Leadership Award by the Institute of Electrical and Electronics Engineer Inc in 2011 and A Rotary-ASME The Entrepreneur of the Year Award for Innovation in 2011.



Ho Siong Hin

Commissioner for Workplace Safety and Health and IES Fellow

Er. Ho Siong Hin is Singapore's Commissioner for Workplace Safety and Health (WSH).

Er. Ho was instrumental in the statutory formation of the industry-led WSH Council in which he served as a member. He also guided the establishment of the WSH Institute with a mission to enhance WSH through Knowledge, Innovation and Solutions. All these efforts had contributed to a significant reduction in Singapore's workplace fatality rate from 4.9 per 100,000 employed persons in 2004 to 1.8 in 2014. Er. Ho was awarded The Public Administration (Gold) Medal at the National Day Awards 2012, in recognition of his outstanding leadership in reforming the WSH framework in Singapore.

Er. Ho is the Past President of The Institution of Engineers Singapore. He is the President of the Professional Engineers Board Singapore and Chairman of the Advisory Committee to the Chemical Engineering Department of Ngee Ann Polytechnic, and is also a member of the Singapore Accreditation Council by SPRING Singapore and chairs the Council Committee for Inspection Bodies.

Er. Ho also works closely with the International Labour Organisation and World Health Organisation to improve OSH standards in the ASEAN region. He was elected Secretary-General of the International Association of Labour Inspection at its General Assembly held in June 2014. Prior to this appointment, Er. Ho served for 2 terms as the Association's Vice-President from 2008 to 2014.

About our C-Suite Speakers



Khoo Beng Keat*

CEO & MD of MAJ Aviation Private Limited and Chairman of Assessment Committee for Charter Engineer (IES)

Mr. Khoo Beng Keat is the CEO & MD of MAJ Aviation Private Limited, a premier aviation support and engineering services in Southeast Asia.

Equipped with more than 37 years of experience in both commercial and military aviation, Mr. Khoo started his aviation career as a License Aircraft Engineer in Singapore Airlines and has subsequently moved on to hold key senior engineering and command positions in Republic of Singapore Air Force, involving key operations support, and major aircraft acquisition programme.

Today, Mr. Khoo is revered as an experienced industrialist in the local Aerospace fraternity, who serves not only in UniSIM Undergraduate Programme and School Advisory Panel, but also involved in The Institution of Engineers Singapore as the Chairman in the interview and assessment committee for Charter Engineers for Aerospace.

*Speaker may subject to change



Lee Chuan Seng

Emeritus Chairman of Beca Asia Holdings Private Limited and IES Fellow

Er. Lee Chuan Seng is the Emeritus Chairman of Beca Asia Holdings Private Limited, a leading engineering consultancy based in Singapore, and was an Executive Director of the Beca Group, New Zealand.

After leading the expansion of the Beca Asia business over more than 2 decades into Southeast Asia and China, Er. Lee has retired in 2013. Today, Beca Asia has offices in Singapore, China, Indonesia and Myanmar with over 500 employees.

Er. Lee is a Board Member of the National Environment Agency, and was the Deputy Chairman of the Building and Construction Authority and a Board Member of the Professional Engineers Board Singapore. He is an Honorary Advisor of the Singapore Green Building Council and was its founding President from 2009 to 2011 as well as a Board Member of the World Green Building Council from 2010 to 2013.

Er. Lee was awarded the Public Service Medal at the National Day Awards in 2010.



Low Teck Seng

CEO of National Research Foundation and IES Fellow

Prof. Low Teck Seng is the CEO of National Research Foundation Singapore, and is presently a tenured professorship at Nanyang Technological University (NTU) and the National University of Singapore (NUS).

Prof. Low has been actively involved in the research, technology and innovation landscape in Singapore for over 30 years. As the founding Executive Director of A*STAR's Data Storage Institute, he has helped to spearhead world class Research & Development in data storage technologies.

Prof. Low set-up the Magnetics Technology Centre at the National University of Singapore in 1992 and served as Dean of Engineering at NUS from 1998-2000. He chaired the Task Force looking into the establishment of a fifth polytechnic in Singapore in 2001, which led him to be the founding Principal of Republic Polytechnic in 2002.

Prof. Low was conferred the Honorary Doctor of Science by Southampton University in recognition for his contributions to Singapore and his profession internationally, in the Institute of Electrical and Electronics Engineers.

Prior to his appointment at NRF he was the Managing Director of Agency for Science, Technology and Research (A*STAR).

About our C-Suite Speakers



Lui Pao Chuen*

Advisor to the National Research Foundation, Prime Minister's Office

Prof. Lui Pao Chuen is an advisor to the National Research Foundation, Prime Minister's Office Singapore, six Ministries and Government Agencies, and to the President of National University of Singapore and Nanyang Technological University.

Prof. Lui retired in 2008 after serving 41 years in the Singapore Armed Forces and Ministry of Defence, and 22 years as Chief Defence Scientist. He currently serves on the board of twelve research institutes and corporations.

Prof. Lui received the National Science & Technology Medal "for his outstanding leadership in the buildup of science and technology capability for the nation and its exploitation for major systems of national impact" in 2002, and the rare Pioneer Award of International Council on Systems Engineering "for dedicating his life to systems thinking and application, resulting in both an unparalleled impact in Singapore, and advances in the development of systems engineering around the world" in 2009. He was also conferred an Honorary Fellow of the ASEAN Federation of Engineering Organisations and the Institute of Physics Singapore President's Medal in 2011.

*Speaker may subject to change



Ng Meng Poh

Executive Vice President & Head Group Asset Management, Utilities, Sembcorp

Mr Ng is responsible for managing Sembcorp's Utilities business in Singapore, ASEAN & Australia, the Middle East & Africa, and UK & the Americas. He also sits on the boards of various companies within the Group.

He has over 30 years of experience in the energy industry and has held both government and private sector appointments. Prior to joining Sembcorp, Mr Ng was part of the executive management team of Senoko Power and also spent over a decade at Singapore's Public Utilities Board. In the course of his career, he was actively involved in the restructuring and liberalisation of Singapore's power and gas markets, as well as in negotiations for the importation of piped natural gas from Malaysia and Indonesia into Singapore.

Mr Ng holds a Bachelor of Mechanical Engineering from the National University of Singapore and a Masters of Science in Energy Resources from the University of Pittsburgh, USA. He also completed the Advanced Management Program at the Wharton School of Business.



Vincent Phang Heng Wee

CEO of ST Logistics

Vincent Phang is the CEO of ST Logistics, a leading service provider of integrated and cost-effective supply chain solutions in the defence, government and healthcare sectors, with more than 700 employees worldwide. Vincent joined ST Logistics in 2007, and held various leadership positions including as a General Manager, as well as a corporate Senior Vice President. Between 2011 to 2013, he joined Blackberry as the Director of Manufacturing and Supply Chain Operations, responsible for Blackberry's supply chain in Asia. He rejoined ST Logistics again in 2013, as Deputy President and Chief Operating Officer, before being appointed CEO in 2014.

Vincent began his career with the Republic of Singapore Air Force and has 17 years of experience in engineering, logistics and supply chain operations. Vincent has a MEng (first class) in Aeronautical Engineering from Imperial College, UK where he studied under a Defence Technology Scholarship. Vincent is also a certified Flight Test Engineer, having graduated with an Advanced Diploma in Flight Test from the International Test Pilots School. Vincent attended the Advance Management Program in Harvard Business School in 2014.

About our Instructors



Adam Khoo

Executive Chairman & Chief Master Trainer of Adam Khoo Learning Technologies Group Private Limited

Mr. Adam Khoo is the Chairman and Chief Master Trainer of Adam Khoo Learning Technologies Group Private Limited, one of Asia's largest private training companies that operate in 7 countries.

A self-made millionaire by the age of 26, Mr. Khoo owns and runs several businesses and has trained over 500,000 students, teachers, professionals, executives and business owners over the last 18 years.

Not only is Mr. Khoo an entrepreneur, he is also a best-selling author, a peak performance expert and was ranked among the top 1% of academic achievers in National University of Singapore (NUS) gifted programme, 'Talent Development'.

Mr. Khoo was awarded both the NUS Eminent Alumni Award in 2011 and NUS Business School Eminent Alumni Award in 2008 for being one of Singapore's most successful and prominent business leaders.



Allen Yeo

Certified Practising Management Consultant under Singapore Business Advisors & Consultants Council and Chairman of Patnova Private Limited

Dr. Allen Yeo is a Certified Practising Management Consultant under Singapore Business Advisors & Consultants Council and holds the position as Chairman at Patnova Private Limited.

Dr. Yeo is a distinguished IP Business Consultant designated by Intellectual Property Office of Singapore, tasked to provide strategic IP and Business support/consultancy to Singapore Small and Medium Enterprises. He is a frequent conference speaker on IP & business management issues, particularly technology innovation & application, patent landscaping and competitive intelligence. Dr. Yeo was also an Honorary Associate Professor at National University of Singapore.



Andrew Ng

Certified Management Consultant & Managing Partner of GREATER CHINA CONSULT and Adjunct Associate Professor of Engineering and Technology Management at National University of Singapore Faculty of Engineering

A/Prof. Andrew Ng is a Certified Management Consultant and Managing Partner of GREATER CHINA CONSULT, which specialises in strategic business development consultancy in the Chinese market environment.

A/Prof. Ng has over 20 years of international marketing and business development experience working with various FORTUNE 500 Multinational Corporations such as Exxon Mobil, Shell Group and Deutsche Bank in the high technology and fast moving consumer goods industries.

A/Prof. Ng is also a Fellow of The Chartered Institute of Marketing (United Kingdom).

A/Prof. Ng was honoured with the Spirit of Enterprise Award in 2003 for his outstanding entrepreneurial achievements.



Hang Chang Chieh

Professor & Head of Engineering and Technology Management at National University of Singapore Faculty of Engineering and IES Fellow

Prof. Hang Chang Chieh is the founding Executive Director of the Institute for Engineering Leadership and the Head of Engineering and Technology Management at the Faculty of Engineering of National University of Singapore. Prof. Hang's research and teaching interest is in Disruptive Innovation Strategies.

Prof Hang serves as the non-executive Chairman of Amplus Communication Private Limited, Ampere Vehicles Private Limited and Dou Yee Enterprises Private Limited.

Prof Hang was awarded the Public Administration Medal (Gold) and the National Science and Technology Medal by the Singapore Government in 1988 and 2000 respectively. He was also awarded the IES/IEEE Medal of Excellence in 2004 and the Public Service Medal in 2008.

About our Instructors



Lawrence Loh

Associate Professor at National University of Singapore School of Business

A/Prof. Lawrence Loh is the Deputy Head of Strategy and Policy at National University of Singapore (NUS) School of Business.

A distinguished academic in his field, A/Prof Loh has won top prizes for his work in the worldwide Doctoral Dissertation Competition in the field of management information systems. At NUS, he is currently teaching strategic management, global strategy and corporate governance.

In his free time, A/Prof. Loh is an active executive trainer, holding an impressive portfolio inclusive of clients such as Caterpillar, Housing and Development Board, Kuwait National Petroleum Company and Toshiba.



Leroy Frank Ratnam

Founder and CEO of Sprezzatura Group and a Learning Partner with Adam Khoo Learning Technologies Group

Leroy Frank Ratnam is the founder and CEO of Sprezzatura Group – holding company of Sales Excellence Institute, Life Excellence Institute. Horizon Real Estates etc. He has many training years in his specialized areas of Sales Mastery and Peak Performance Mastery. He also specializes in Success Conditioning, Mental Programming, Effective Communication, and Leadership.

With many years of training experience in these areas, Leroy has empowered and educated many people in Singapore and across the region. He has been involved in training hundreds of thousands of people ranging from individuals in the public market all the way to organizations. He has worked with many organizations from varying industries and works with them from a departmental level all the way to an organization wide level.

Being a Certified Licensed Trainer of Neuro-Linguistic Programming[™] (NLP[™]), Leroy was personally trained by Dr. Richard Bandler and John LaVelle. He is personally licensed by Dr. Richard Bandler – The Founder of Neuro-Linguistic Programming[™] (NLP[™]), in the area of Peak Performance training.



Neo Kok Beng

Adjunct Associate Professor at National University of Singapore School of Business & Faculty of Engineering, Co-Founder of AWAK Technologies Private Limited & Pirate3D and IES Fellow

Prof. Neo Kok Beng is a technology entrepreneur and venture catalyst that specialises in new product development and technology commercialisation from universities and research institutes. He co-founded a UCLA spin-off in wearable dialysis with local engineering development with Temasek Polytechnic. He also co-founded Pirate3D, a global consumer 3D printer startup that raised more than US\$1.4M on Kickstarter.

Prof. Neo is the Fellow and Vice-President of The Institution of Engineers Singapore. His research areas are in Innovation Policies, Innovation Strategies and Innovation Entrepreneurship, and teaches regularly in National University of Singapore, Harvard Kennedy School of Government and Singapore-Stanford Biodesign.

Prof. Neo sits on international expert and advisory panels; such as Ministry of Education, Singapore's ASPIRE, National Research Foundation's Research, Innovation & Enterprise (RIE) 2020, Inland Revenue Authority of Singapore, SPRING Singapore and Government Parliamentary Committee. He also speaks and on innovation at conferences and seminars for African Development Bank, Agency for Science, Technology and Research, INSEAD, Singapore Management University, Singapore University of Technology and Design, Temasek companies, and more.

About our Instructors



Paddy Rangappa

Marketing Consultant & Trainer; ex-Regional Vice President at McDonald's

Paddy Rangappa is an ex-regional vice president with over 25 years' experience across marketing disciplines in blue-chip FMCG (Procter & Gamble) and retail (McDonald's) companies in India, Indonesia, Singapore and the Asia Pacific Middle East region.

In these roles, in addition to delivering strong sales and profit growth, Paddy has been actively involved in developing strategy, branding and go-to-market plans at a regional and country level. He has a strong record of enhancing marketing capability and developing people, having led the training function in both P&G and McDonald's.

He is the author of Been There Bungled That (Random House), a regular columnist at The Hindu, a leading Indian newspaper, and an accomplished public speaker.

Paddy brings this wealth of experience to his role as marketing consultant and trainer.



Patrick Teng

Founder, Chief Dealer & CEO of Six Capital

Patrick is a 30-year FX veteran with a track record in innovation and results. He began his FX career in 1981 and has worked as Chief Dealer for several global banks.

When still in his twenties, Patrick was Vice-President and Chief Dealer of Chase Manhattan, making him one of the youngest chief dealers in Singapore. He was the Vice-President of Treasury for the Union Bank of Switzerland in Tokyo, one of the world's largest FX markets.

He was also part of the Singapore Foreign Exchange Market Committee, as member of a team tasked to grow the country's foreign exchange market-making capacities.

In 2009, he founded Six Capital. His aim: to develop a new approach to FX trading and alternative investments.



Yeoh Lean Weng

Director of Energy and Environment Research Directorate at National Research Foundation

Prof. Yeoh Lean Weng is the Director of Energy and Environment Research Directorate at National Research Foundation and Vice President of The Institution of Engineers, Singapore (IES).

Prof. Yeoh has extensive experience in the development and implementation of Command, Control Communications, Computers and Intelligence (C4I) systems. He was previously the Director of C4I Development and Masterplanning and Systems Architecting at Defence Science and Technology Agency.

Prof. Yeoh is active in the Singapore engineering professional and academic circles. He is the founding Chairman of IES Certified Systems Engineering Professional, and was the Executive Committee Member of the Asia Pacific Council on Systems Engineering and President of the INCOSE Singapore Chapter. He is the first Fellow of INCOSE in Singapore, and is also an Adjunct Professor of National University of Singapore.

Prof. Yeoh received the Singapore Public Administration Medal (Bronze and Silver) in 2001 and 2008 respectively, and the Defence Technology Prize Individual (Engineering) Award in 2007, in recognition of his outstanding technological contributions.

Programme Components

CLASSIC \$2,0

YEL PROGRAMME COMPONENTS

- Technology Management Sessions[^]
- Leadership & Soft Skills Sessions[^]
- E-Learning
- Networking
- Online Community
- Graduation Ceremony

*Participants can enjoy e2i Funding Support (Please refer to the next page for more details). Non-members can enjoy complimentary IES & NTUC memberships ^Core Programme

Modules

Technology Management Skills

- i. Disruptive Innovation Strategies
- ii. Innovative Organisation
- iii. Intellectual Properties
- iv. Systems Thinking & Engineering
- v. Technology Commercialisation

Leadership and Soft Skills

- i. Communications for Leaders
- ii. Marketing of High Technology **Products and Innovations**
- iii. Master Your Mind for **High Performance**
- iv. Negotiation and Influence
- v. Strategic Thinking for **Technology Leaders**

e2i Funding Support for The Young Engineers Leadership (YEL) Programme

Funding Support at 50% of the Programme Fee

YELP Participants can enjoy e2i (Employment and Employability Institute) Funding Support at 50% of the programme fee (excluding GST), for which the following criteria must be satisfied:

- The participants shall be employed Singaporeans or Singapore Permanent Residents;
- The participants shall meet the minimum set of entry requirements for the course(s) within the Programme;
- The participants shall achieve at least 75% attendance for the programme;
- The participants and/or the Company shall not receive any other funding from government sources in respect of the actual grant disbursed.

For more information, please contact Shirleen Wong at 64611246 or shirleen.wong@iesnet.org.sg

Terms and conditions apply.

UTAP Support

NTUC members enjoy 50% (unfunded) programme fee support of up to \$250 each year when members enroll for programme and courses supported under UTAP* (Union Training Assistance Programme).

For more information, call NTUC Membership hotline at 6213 8008 or visit http://skillsupgrade.ntuc.org.sg

*Only applicable to Ordinary Branch and General Branch NTUC members. Terms and conditions apply.

Modules

Module: Strategic Thinking for Technology Leaders

Instructor: Lawrence Loh, Associate Professor of National University of Singapore School of Business

Time	Content
0900-1045	Session 1: Frameworks for Technology Advantage: The "Context" of Strategy This session highlights recent tenets of strategic planning with a focus on the settings of engineering and innovation management. It covers the importance of understanding the critical external and internal environments driving strategic success, especially through the leveraging of technology. Learning Objectives To scope the global environments facing technology-based organisations using a holistic practical approach and established analytical models To conduct focused industry analyses and examine the implications beyond the forces for strategic advantage To integrate the context analyses through the perspective of industry value and corporate performance
	The session will use large-group sharing activities to draw out individual insights on selected case examples
1045-1115	Break
1115-1300	Session 2: Frameworks for Technology Advantage: The "Content" and "Contest" of Strategy This session extends the context to cover perspectives in developing the content of strategy as well as analysing the competitive dimension, namely, the contest for technology advantage. Learning Objectives To appreciate competitive environments and their impact on the changing product markets and industry boundaries To integrate strategic development for sustaining growth through value management To present a systematic process of strategic management for application in technology-based organisations Interactive Activities The session will use large-group challenge scenarios to motivate active learning and take-away
1300-1400	Lunch
1400-1530	Session 3 (Continuation of Session 2)
1530-1600	Break
1600-1730	Session 4: Conversations with Ng Meng Poh Mr. Ng Meng Poh, Executive Vice President and Head Group Asset Management, Utilities, Sembcorp will be invited to share his perspectives, experience and knowledge of the theme in practice. Mr. Ng will give a 30 minutes lecture on the topic, followed by interactive question sessions from the participants. Learning Objectives To appreciate the applications of theories in real-life situations To understand the application of learning from leadership position Interactive Activities Personal interaction with Mr. Ng

Module: Negotiation and Influence

Instructor: • Leroy Frank Ratnam, Founder and CEO of Sprezzatura Group and a Learning Partner with Adam Khoo Learning Technologies Group

• Patrick Teng (SIM), Founder, Chief Dealer & CEO of Six Capital.

Time	Content
0900-1045	Session 1: Basics of Negotiation and Influence Participants will be introduced to negotiation outcomes, evaluate case studies to identify if there are possible winning outcomes and discover various strategies of negotiation. Learning Objectives To internalise the negotiation process To identify possible outcomes To take away strategies for negotiating and influencing others
	Interactive Activities • Applying techniques learnt to case studies
1045-1115	Break
1115-1300	Session 2: It's All About the Communication Adopting the right communication strategy is all part of a successful negotiation. Participants will identify various communication types, behavioral styles and those of their clients, customers and co-workers to adjust for better negotiations.
	 Learning Objectives To understand your personal communication and negotiation style, as well as others To learn how to put across your points firmly To learn how to handle various types of personalities
	Interactive Activities • Case studies and large group activity
1300-1400	Lunch
1400-1530	Session 3: Beyond the Basics After internalising the basics of negotiation and influence, participants will learn how to deal with unexpected issues arising in the course of negotiating. Learning Objectives To recognise, organize and rank concessions To learn how to proceed to propel the negotiation forward after a standstill or deadlock To understand when is the Walk Away Point Interactive Activities
	Interactive discussions and case studies
1530-1600	Break
1600-1730	Session 4: Conversations with Edwin Khew Er. Edwin Khew, Managing Director of Anaergia Private Limited and IES Fellow will be invited to share his perspectives, experience and knowledge of the theme in practice. Er. Khew will give a 30 minutes lecture on the topic, followed by interactive question sessions from the participants. Learning Objectives To appreciate the application of theories in real-life situations To understand the application of learning from leadership position Interactive Activities Personal interaction with Er. Khew

Module: Innovative Organisation

Instructor: Neo Kok Beng, Adjunct Associate Professor at National University of Singapore School of Business & Faculty of Engineering, Co-Founder of AWAK Technologies Private Limited & Pirate3D and IES Fellow

Time	Content
0900-1045	Session 1:The Innovative Organisation – Culture Some organisations are able innovate much better than others, while others pride themselves on being highly efficient or productive. What are the cultural differences driving organisations such as Apple, Google, and General Electric?
	Learning Objectives To understand the strategic importance of innovative organisation To appreciate the culture of innovative organisation and their impact on different corporations.
	Interactive Activities • Case discussion of an innovative organisation
1045-1115	Break
1115-1300	Session 2: Innovative Organisation – Structure The managerial structural design – from management, performance, compensation, and development are crucial to the success of an innovative organisation. Different structure and systems will be explored and discussed.
	 Learning Objectives To appreciate the various types of structure of an innovative organisation To learn how to design the structure of an innovative organisation
	Interactive Activities • Design of an innovative organisation based on a case
1300-1400	Lunch
1400-1530	Session 3: Innovative Organisation – Business Model Business model innovation has been gaining critical importance as technological advancement resulted in new ways of meeting customer needs. Based on a customer-centric approach, the business model innovation will have great impact on the design and review of innovative organisation.
	 Learning Objectives To appreciate the power of business model innovation To develop a new innovative organisation structure
	Interactive Activities • Discussion and designing their own innovative organisation
1530-1600	Break
1600-1730	Session 4: Conversations with Lee Chuan Seng Er. Lee Chuan Seng, Emeritus Chairman of Beca Asia Holdings Private Limited and IES Fellow will be invited to share his perspectives, experience and knowledge of the theme in practice.
	Er. Lee will give a 30 minutes lecture on the topic, followed by interactive question sessions from the participants.
	 Learning Objectives To appreciate the application of theories in real-life situations To understand the application of learning from leadership position
	Interactive Activities • Personal interaction with Er. Lee

Module: Marketing of High Technology Products and Innovations

Instructor: Andrew Ng, Certified Management Consultant & Managing Partner of GREATER CHINA CONSULT and Adjunct Associate Professor of Engineering and Technology Management at National University of Singapore Faculty of Engineering

of Singapore Faculty of Engineering	
Time	Content
0900-1045	Session 1: Understand and Research the Environment Environment comprises of the physical environmental location as well as the immediate surroundings of the workplace, such as an office building or construction site.
	Learning Objectives To develop an objective appreciation of the dynamic industry environment To learn how to conduct market research of new products and innovations
	Interactive Activities • Case study: "COMs" Electric Vehicle
1045-1115	Break
1115-1300	Session 2: Targeting to Cross the Chasm and Navigating the "Maze"
	Crossing the chasm means marketing and selling high-tech products to mainstream customers. It involves choosing a target market, understanding the whole product concept, positioning the product, building a marketing strategy, choosing the most appropriate distribution channel and pricing.
	Learning Objectives To learn how to segment the market and target to cross the chasm To appreciate and master the art and science of navigating the decision making maze
	Interactive Activities Case study: Bombardier Jets Real time polling exercise: Who and how many decision makers
1300-1400	Lunch
1400-1530	Session 3: Crafting Out the Right Marketing Mix
	Creating the right marketing mix will increase the customer networks, sales and brand presence immediately. It involves finding out what your customers want and then meeting their requirements.
	Learning Objectives To develop a comprehensive understanding of the marketing mix elements – product, price, promotion and place
	Interactive Activities • Case study: Marketing of Tunnelling machines in the China Market
1530-1600	Break
1600-1730	Session 4: Conversations with Vincent Phang Mr. Vincent Phang, CEO of ST Logistics, will be invited to share his perspectives, experience and knowledge of the theme in practice.
	Mr. Phang will give a 30-minute lecture on the topic, followed by interactive question sessions from the partipants.
	Learning Objectives To appreciate the application of theories in real-life situations To understand the application of learning from leadership position
	Interactive Activities • Personal interaction with Mr. Vincent

Module: Disruptive Innovation Strategies

Instructor: Hang Chang Chieh, Professor & Head of Engineering and Technology Management at National University of Singapore Faculty of Engineering and IES Fellow

Time	Content
0900-1045	Session 1: Understanding Innovator's Dilemma Caused by Disruptive Innovation
	Disruptive is an innovation that helps to create a new market by applying a different set of values, which ultimately and unpredictably overtakes an existing market while sustaining is an innovation that does not affect existing markets.
	Learning Objectives To understand how disruptive technologies could cause great firms to fail To differentiate disruptive from sustaining innovation
	Interactive Activities • Case discussion on what are disruptive and what are not disruptive innovations
1045-1115	Break
1115-1300	Session 2: Success Factors in Disruptive Innovation
	A disruptive innovation allows a whole new population of consumer access to a product or service that was historically only available to consumers with a lot of skill and money. Once a truly disruptive product or service takes root in simple applications at the bottom of a market it can move relentlessly up market, eventually displacing established competitors.
	Learning Objectives To understand conditions for disruption To understand difficulties caused by organisational nature and how they may be overcome
	Interactive Activities • Case discussion on recent failures of some potentially disruptive innovations
1300-1400	Lunch
1400-1530	Session 3: Disruptive Innovation Strategy Formulation
	It can be consists of four strategies as follows, radical cannibalism, competitive displacement, market invention and industry genesis.
	Learning Objectives To understand "job-to-be-done" To understand "new market creation" To understand the role of business model
	Interactive Activities
	Case discussion of some successful examples
1530-1600	Break
1600-1730	Session 4: Conversations with Frederique Covington-Corbett
	Ms. Frederique Covington-Corbett, International Marketing Director of Twitter Asia Pacific, India, Middle East & Africa and Canada will be invited to share her perspectives, experience and knowledge of the theme in practice.
	Ms. Covington-Corbett will give a 30 minutes lecture on the topic, followed by interactive question sessions from the participants.
	Learning Objectives To appreciate the application of theories in real-life situations To understand the application of learning from leadership position
	Interactive Activities • Personal interaction with Ms. Covington-Corbett

Module: Intellectual Properties

Instructor: Allen Yeo, Certified Practising Management Consultant under Singapore Business Advisors & Consultants Council and Chairman, Patnova Private Limited

Time	Content
0900-1045	Session 1: Introduction to Intellectual Property Rights Students will be introduced to seven key types of Intellectual Property (IP) rights. Attention will be focused on patents, trademarks, copyright, industrial design, integrated circuit layout design, plant varieties rights and trade secrets.
	Learning Objectives To define and understand the various types of IP rights To develop an understanding of IP rights in the Singapore context To analyse the type of rights required for various products and services
	Interactive Activities • Discussion questions on IP rights
1045-1115	Break
1115-1300	Session 2: Functions of IP Rights and Best Practices Case studies will be used to discuss defensive, offensive, profit centre and corporate and visionary roles. We will also be going through the best practices from Research & Development, IP Protection to IP Monetisation.
	Learning Objectives To develop the ability to apply knowledge of the functions of IP rights in real life scenarios
	To identify and have key takeaways from best IP practices
	Interactive Activities • Case studies of IP rights and best practices
1300-1400	Lunch
1400-1530	Session 3: Data Protection Law and Practices in Singapore We will be having a brief overview of the data protection law and practices in Singapore. Topics discussed will include the latest Personal Data Protection Act rules as well as other engineering related standards.
	Learning Objectives To gain an understanding about the law ecosystem of Singapore To familiarise with data protection law
	Interactive Activities • Group discussions about IP rights in the Singapore context using up to date cases
1530-1600	Break
1600-1730	Session 4: Conversations with Henn Tan Mr. Henn Tan, CEO of Trek 2000 International Limited will be invited to share his perspectives, experience and knowledge of the theme in practice.
	Mr. Tan will give a 30 minutes lecture on the topic, followed by interactive question sessions from the participants.
	Learning Objectives To appreciate the application of theories in real-life situations To understand the application of learning from leadership position
	Interactive Activities • Personal interaction with Mr. Tan

Module: Technology Commercialisation

Instructor: Neo Kok Beng, Adjunct Associate Professor at National University of Singapore School of Business & Faculty of Engineering, Co-Founder of AWAK Technologies Private Limited & Pirate3D and IES Fellow

Time	Content
0900-1045	Session 1: Technology Studies The seminar examines interactions between society and technology from the vantage point of an engineer's point of perspective.
	Learning Objectives To develop a deep understanding of the relationship between technology and organisations To understand and know when to implement the various technology commercialisation models
	Interactive Activities • Provide resources for large group based learning and activities
1045-1115	Break
1115-1300	Session 2: Intellectual Property and Licensing of New Technology New technologies entering the market need ample time for development and acceptance, hence technologies usually reply on Intellectual Property (IP) protection. We will review basic legal and managerial dimensions of licensing IP.
	Learning Objectives To have an introduction to Singapore's licensing legal framework To develop a clear understanding of barriers to competitive entry, copyrights and patents To learn how to link licensing strategy to IP protection and overall corporate strategy
	Interactive Activities • Large group activities that engages all participants
1300-1400	Lunch
1400-1530	Session 3: New Value Creation Provide insight into the primary components of new venture creation including finding the right technological model, business model and team management.
	Learning Objectives To identify suitable technology models for value creation To coordinate logistics for smooth coordination across functions, with emphasis on technology
	Interactive Activities • Case studies on successful companies which achieved high value creation
1530-1600	Break
1600-1730	Session 4: Conversations with Low Teck Seng Prof. Low Teck Seng, CEO of National Research Foundation and IES Fellow will be invited to share his perspectives, experience and knowledge of the theme in practice.
	Prof. Low will give a 30 minutes lecture on the topic, followed by interactive question sessions from the participants.
	Learning Objectives To appreciate the application of theories in real-life situations To understand the application of learning from leadership position
	Interactive Activities • Personal interaction with Prof. Low

Module: Systems Thinking & Engineering

Instructor: Yeoh Lean Weng, Director of Energy and Environment Research Directorate at National Research Foundation

Time	Content
0900-1045	Session 1: Framework to Core Concepts of "Thinking" An integrative view of understanding the increasingly complex nature of engineering management problems focused on differentiating the types of "Thinking." Systems engineering framework, modelling methods and tools to help guide engineers through projects.
	 Learning Objectives To articulate the difference between systems and reductionist thinking To understand the engineering environment To be able to apply the framework and modelling methods in cases
	Interactive Activities • Case studies of applying system thinking and engineering concepts to engineering technology management
1045-1115	Break
1115-1300	Session 2: Analysing the Problem Systems thinking is a foundational approach for analysing diverse elements of complex problems as a coherent, interacting system and aims to equip students with the understanding of reasons for the superiority of systems approach to problems
	 Learning Objectives To understand the major approaches to analysing problems in a systems manner To master the ability to analyses engineering management issues and problems and develop solutions using the systems thinking approach
	Interactive Activities • Case studies and discussions
1300-1400	Lunch
1400-1530	Session 3: Systems Thinking in Action In all project stages and in the system's life, all systems have to consider a wide set of variables. A whole system has to be seen as interaction between system's elements, adopting recursive thinking instead of linear thinking.
	 Learning Objectives To utilise standard processes for engineering a system To be able to select an appropriate lifecycle guide to systems development on a project To understand the recursive nature of requirement development To understand the importance of interface development, management and control and how it leads to successful product integration
	Interactive Activities • Discussion questions
1530-1600	Break
1600-1730	Session 4: Conversations with Lui Pao Chuen* Prof. Lui Pao Chuen, Advisor to the National Research Foundation, Prime Minister's Office will be invited to share his perspectives, experience and knowledge of the theme in practice.
	Prof. Lui will be invited to give a 30 minutes lecture on the topic, followed by interactive question sessions from the participants.
	 Learning Objectives To appreciate the applications of theories in real-life situations To understand the application of learning from leadership position
	*Speaker may subject to change

Module: Master Your Mind for High Performance

Instructor: Adam Khoo, Executive Chairman and Chief Master Trainer of Adam Khoo Learning Technologies Group Private Limited

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Time	Content
0900-1045	Session 1: Paradigms of Peak Performers Old paradigms are beliefs often hinder us from performing at our best. Through anecdotes and real-life examples, participants will learn the mental models that will allow them to take charge of their lives and achieve exceptional success as they progress in their careers
	 Learning Objectives To understand the difference between proactivity and reactivity To learn to take ownership and ultimate control of results To understand how our beliefs affect what we focus on and what we get
	 Interactive Activities Tic Tac Toe with a twist: Empowering beliefs versus limiting beliefs and their effect on performance Large-group sharing activities to draw out individual insights on shared case examples
1045-1115	Break
1115-1300	Session 2: Key to Attaining Your Peak State The results a person gets varies with the action taken and our actions are often dictated by our state. By controlling and tweaking our internal representation and physiology, participants will be able to change the state they are in to achieve the results they desire.
	 Learning Objectives To understand what is peak performance To understand how our emotional state affects our performance To learn to take charge of our emotional states To understand how the use of our words affect our state and results
	Interactive Activities • Live demonstration and practice session on how to take charge of your emotional states for peak performance
1300-1400	Lunch
1400-1530	Session 3: Power of Quantum Thinking and Quantum Goals Many of us set goals that are often very incremental and based on past performance. Although obvious, few people set quantum targets in order to achieve the quantum results they deserve. Setting quantum targets forces a person or organisation to think outside the box, to do things differently and to achieve extraordinary results.
	 Learning Objectives To understand the benefits of quantum goals To learn how to achieve quantum growth in the shortest time To learn how to constantly stretch yourself for maximum personal growth
	Interactive Activities • Use a simple model towards achieving quantum results
1530-1600	Break
1600-1730	Session 4: Conversations with Khoo Beng Keat* Mr. Khoo Beng Keat, CEO & MD of MAJ Aviation Private Limited and Chairman of Assessment Committee for Charter Engineer (IES) will be invited to share his perspectives, experience and knowledge of the theme in practice.
	Mr. Khoo will give a 30 minutes lecture on the topic, followed by interactive question sessions from the participants.
	 Learning Objectives To appreciate the applications of theories in real-life situations To understand the application of learning from leadership position
	Interactive Activities • Personal interaction with Mr. Khoo *Speaker may subject to change

Module: Communications for Leaders

Instructor: • Paddy Rangappa, Marketing Consultant & Trainer; ex-Regional Vice President at McDonald's

• Leroy Frank Ratnam, Founder and CEO of Sprezzatura Group and a Learning Partner with Adam Khoo Learning Technologies Group

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Time	Content
0900-1045	Session 1: Leadership and Communications Leadership is about change and moving forward. In this fast past business environment, communication is key for enacting success. Important communication models will be taught with relevant examples. Learning Objectives To understand the communication models To understand the encoding, decoding and virtual communications model Interactive Activities Group activities for key takeaways
1045-1115	Break
1115-1300	Session 2: Organisational Culture To successfully communicate to clients, peers and customers, individuals must first understand the environmental culture they are operating in. Communicate confidently in any environment from spontaneously to high stakes pitches and proposals Learning Objectives To understand how organisational culture impacts communication channels and models To determine the tools to identify cultural aspects that can be used to your advantage To learn how to control all elements of your message to suit the environment
	Interactive Activities • Case analysis
1300-1400	Lunch
1400-1530	Session 3: Beyond Mere Communications Discover breakthrough leadership communication tactics for driving business value and become a more powerful leader. Craft impactful messages that are short, simple and strong as well as encouraging your audience to action. Learning Objectives To learn how to overcome barriers to communication in any environment To learn how to build the trust, credibility, rapport and relationships needed for excellent results To learn how to utilise the best tools and channels for delivering messages Interactive Activities Case discussions
1530-1600	Break
1600-1730	Session 4: Conversations with Ho Siong Hin Er. Ho Siong Hin, Commissioner for Workplace Safety and Health and IES Fellow will be invited to share her perspectives, experience and knowledge of the theme in practice. Er. Ho will give a 30 minutes lecture on the topic, followed by interactive question sessions from the participants. Learning Objectives To appreciate the application of theories in real-life situations To understand the application of learning from leadership position Interactive Activities Personal interaction with Er. Ho

E-Learning

The YEL Programme leverages on the use of a virtual classroom to deliver learning resources to participants at their own time, place and pace for more conducive learning. The ten online pre-selected modules provided by NTUC LearningHub and Cegos will closely mirror the topics taught during the physical training sessions. Titles include Evaluating and Strategically Aligning Objectives, Aligning Objectives with Market Forces, Seven Keys to Effective Meetings and Relating Contribution to Value Creation.

The e-learning portion will supplement the physical training sessions, and reinforce key learning objectives for the up-skilling and professional development of participants. It encourages interactivity through facilitated communication channels between learners and trainers and chats. Participants are free to engage one another for deeper discussions and have time on their own to digest the topics with aid of the e-learning platform.

Online Community

YEL Programme participants will be given exclusive access to an online community through the various platforms of LinkedIn and Facebook where they can interact with fellow like-minded engineers. This online community acts as an information system and members can post, discuss, give advice or collaborate with one another on a host of issues.

The aim of the online community is to build a convenient and specialised channel of communication for engineers to keep in touch and network even after the completion of the YEL Programme. Prestigious C-suite leaders will regularly visit the online community to interact with participants, presenting a valuable opportunity for participants to ask questions and receive advice form industry veterans.

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What is **U ASSOCIATE**?

U Associate is a partnership programme initiated by the Labour Movement to support professional associations and meet the increasingly diverse needs of PMEs (Professionals, Managers and Executives).

By forming strategic alliances with professional associations, we can come together to achieve greater Growth, forge stronger Relationships and open up new Opportunities.

For more information:



ntuc.org.sg/uassociate



uassociate@ntuc.org.sg







ABOUT FUTURE LEADERS PROGRAMME

NTUC launched the Future Leaders Programme (FLP), a holistic three-tier learning initiative to support and equip Singapore's professionals, managers and executives (PMEs) with the necessary technical know-how and soft skills to prepare them to be future-ready. The Future Leaders Programme also complements NTUC's U Associate Programme and they form a comprehensive framework to ensure Singapore's PME workforce remains relevant and prepared for future challenges in the workplace.

FUTURE LEADERS SUMMIT

- A large-scale conference with keynote speakers who will share their perspectives on the challenges and trends that shape tomorrow's workforce
- Prime networking opportunity for PMEs to widen their professional circles

FUTURE LEADERS SERIES

 Industry specific in-depth dialogue sessions, which are sectorially focused and profession-led, such as Engineering, Accounting, Finance, IT, Marketing and Sales

Future Leaders Mentorship Sessions

- Small group setting conducted behind closed doors, by industry leaders, to facilitate more open and honest sharing
- Provides PMEs a unique access to industry leaders via a selection process, for personal development and career guidance





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