

S'pore's tertiary bodies revamp courses to meet needs of future economy

Data analytics focus of many new courses; fintech, digital innovation, entrepreneurship also feature prominently

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LOCAL institutes of higher learning (IHLs) appear to be ramping up their game in enhancing programmes to meet the needs of Singapore's future economy.

About 12 revamped programmes and brand new majors at five of the six autonomous universities will be available in the upcoming academic year beginning August 2017. *The Business Times* found that many of them focus on preparing graduates for challenges mentioned in the recent Committee on the Future Economy report.

In response to a query about possible reasons for the changes, the Ministry of Education (MOE) said: "Courses in IHLs have to move with the times, adapt to changing industry demands, and cater to emerging growth. This has been our approach, but we need to recognise that the pace of change is now faster than ever."

"MOE will continue to set the tone, drawing on national economic strategies, while the IHLs exercise their significant autonomy to initiate and implement the changes in a way that serves students best."

Data analytics is emerging as a popular business focus at the Singapore University of Social Sciences (SUSS; formerly UniSIM), National University of Singapore (NUS) and Singapore Management University (SMU).

This August, SUSS will launch two new degree programmes for the Bachelor of Early Childhood Education with Minor and the Bachelor of Science in Business Analytics with Minor.

Lee Yew Haur, who heads the business analytics programme, said the university has been preparing the programme for some time as a

natural progression from the part-time data analytics course SUSS has offered since 2007, and announced the full-time programme in August 2016.

"Before analytics was the buzz word, we had data mining, and some analysts call themselves data scientists now, so the terms have evolved," said Assoc Prof Lee. "But the main techniques are essentially the same; it's the data that has gotten bigger with more data sources like social media, sensors, smartphones and CCTV."

"We have been waiting a long time to do this, because we know the potential is there, and it's good that the government is placing emphasis on this. Many businesses are not leveraging the data they have, and our hope is that eventually every business will have an analytics professional in their departments to leverage that potential."

At NUS, the Business School has revamped curricula for the Bachelor of Business Administration and Bachelor of Business Administration (Accountancy) programmes, also adding analytics to the mix.

Following a review started in June 2016, the programmes will include three new specialisations in Business Analytics, Business Economics, and Innovation and Entrepreneurship for both majors. Other changes include two new analytics core modules and a compulsory international exposure component.

Similarly, the Lee Kong Chian School of Business at SMU will be adding an analytics specialisation to their Finance, Marketing, and Operations Management majors.

Information systems majors are gearing towards a solutions-focused education, with NUS School of Computing's Bachelor of Computing in Information Systems and SMU's Information Systems major pro-



Industry expectations were the biggest impetus for NTU's School of Art, Design and Media to launch its two new Bachelor of Fine Arts programmes in Design Art and Media Art this August. THE STRAITS TIMES FILE PHOTO

grammes both making it their goal to produce more practical and innovative solution architects.

NUS will be expanding an existing E-commerce specialisation and adding two new specialisations in fintech and digital innovation. The courses will equip students with skills such as handling compliance requirements in fintech, initiating digitisation within organisations rather than merely managing outsourced projects, and executing their solution ideas.

"We want students to have creative ideas, design and develop the solution, and bring it to market to complete the whole cycle, rather than only conceptualising but not following through with execution," said Tan Chuan Hoo, deputy head of programmes in the Information Systems department. "One of the modules for the Digital Innovation specialisation is Designing IT-enabled Business Innovation, and it's very related to disruption, encouraging students to think of how to use technology in disruptive ways that bring value to the company," said Assoc Prof Tan.

He said that NUS took into account industry needs as well as recommendations from the Infocomm Media Development Authority for the revisions which started in mid-2016.

Pang Hwee Hwa, dean of SMU's School of Information Systems, said that their revamped Information Systems major will train students to use emerging technologies to develop end-to-end solutions for businesses and society.

SMU is also launching a new major in Smart City Management and Technology, which will equip students to seize career opportunities in the current global trend towards smart cities, said Prof Pang. "Students will acquire a sound foundation of the interdisciplinary knowledge that is required to address complex real-world problems."

The Singapore University of Technology and Design (SUTD) is looking to leverage the entrepreneurship movement, with a new integrated undergraduate and postgraduate programme launching in May.

The SUTD Technology Entrepreneurship Programme will allow students to graduate with two degrees in 4½ years: a Bachelor of Engineering or Science, and a Master of Science in Technology Entrepreneurship.

In their fourth year of study, students will undertake one term of entrepreneurship courses in the United States at the University of California, Berkeley, followed by four months of work immersion in the Bay Area, and one more term of master's degree level modules at a Chinese university.

SUTD provost professor Chong Tow Chong said: "By providing students with the best of the East and West in terms of both education and overseas work and cultural experience, students will be able to gain first-hand global insights and identify potential gaps."

"Coupled with the supportive startup eco-system in Singapore, students will have a strong entrepreneur-

ship foundation to start businesses that can help better society and the world."

Industry expectations were the biggest impetus for NTU's School of Art, Design and Media (ADM) to launch its two new Bachelor of Fine Arts programmes in Design Art and Media Art this August.

Peer Sathikh, who is coordinating the new programmes, said that specialisation boundaries have been blurring in the creative industry, with graduates expected to have a broad range of expertise in an increasingly competitive industry.

"Students trained in product design are asked to do graphic design, while filmmakers are also expected to work with visual effects and animation," said Assoc Prof Peer, who is also ADM's associate chair (academic).

As a result, the new Design Art programme will be a combination of three current programmes in Interactive Media, Product Design and Visual Communication. The Media Art programme will integrate the existing specialisations of Digital Animation, Digital Filmmaking, and Photography and Digital Imaging into one degree.

However, there is still a need for specialised students, so ADM will continue to offer the option to pursue specific programmes and specialisations, said Assoc Prof Peer.

Finally, relations with China look to grow significantly in the near future, with the signings of memorandums of understanding in early March, between NTU's Nanyang Busi-

ness School and Peking University's (PKU) School of Economics, and Ngee Ann Polytechnic (NP) with non-profit organisation Business China.

NTU will be working with PKU to launch a double master's degree programme in finance, to enhance finance education at both universities in the increasingly competitive postgraduate market.

Students will get to study at both campuses to broaden their horizons, gain cross-cultural competence, and plug into the larger financial communities of both countries. The launch date for the double degree programme has not yet been announced.

NP's new Certificate in China Readiness programme will start its first run in April, and is designed as a cross-disciplinary elective offered to second-year students across all diplomas. Priority will be given to those with a keen interest to engage with, work in or do business in China.

In a series of three modules culminating in a 12-day immersion programme in China, the students will gain insights into China's developments and evolving culture, and learn to bridge cultural gaps between the two countries.

"With China's exponential growth and fast-changing social landscape in recent years, it is crucial for our students to be China-savvy, as part of being future-ready," said NP principal Clarence Ti. "Our partnership with Business China in introducing this Certificate in China Readiness programme is a timely move in the right direction."