NEWS RELEASE

Singapore, 26 August 2022

NTU Singapore launches new school of Science and Engineering as a model for interdisciplinary learning

Nanyang Technological University, Singapore (NTU Singapore) today officially launched the **School of Chemistry, Chemical Engineering and Biotechnology (CCEB)** – a new academic unit that aims to become the pioneering model for excellence in interdisciplinary education and research.

Jointly set up by the Colleges of Engineering and Science, the interdisciplinary school is a first-of-its-kind academic unit to be established between any two Colleges within NTU and aims to be **a model for interdisciplinary learning** for other NTU schools and academic institutions in the region.

Created as part of the **NTU 2025 strategic plan** to better equip students for the interdisciplinary challenges of tomorrow, the School of CCEB will serve as a platform to foster stronger interdisciplinary synergies across academic units in education, research, and innovation, while also ensuring depth and rigour in the coverage of topics within the disciplines.

The setting up of the new school also follows from the introduction of a university-wide interdisciplinary common core curriculum for all first-year undergraduate students last August, covering topics such as digital literacy, communication and inquiry, ethics, and global challenges.

Professor Subra Suresh, NTU President, said, “Addressing some of the most pressing and complex challenges facing humanity inevitably calls for strong interdisciplinary approaches in pedagogy and research. The formation of the new School of Chemistry, Chemical Engineering and Biotechnology is yet another example of the University’s commitment, through our NTU 2025 strategic plan, to better prepare students for the opportunities and challenges facing industry and society.”

Besides enhancing the quality of education at NTU, the new school is also expected to further strengthen the national and global impact of NTU’s educational programmes, scientific research, and innovation in the subject areas of Chemical Engineering and Chemistry. NTU’s Chemical Engineering and Chemistry are both ranked 7th in the world in the 2022 Quacquarelli Symonds (QS) World University Subject Rankings.

The launch of the new school today was officiated by **Guest-of-Honour, Second Minister for Education, Dr Maliki Osman.**

Dr Maliki said, “The ability to integrate the strengths of different disciplines is crucial for graduates to meet challenges in the future economy. I believe NTU’s new school will equip our students with this competency, as it taps on synergies across its world-class colleges to deliver quality interdisciplinary education. I also look forward to the innovations that will be generated from the college’s interdisciplinary approach to research and collaborations with industry.”

Giving students a head start on their careers

The School of CCEB is formed by integrating the Division of Chemistry and Biological Chemistry in the School of Physical and Mathematical Sciences (SPMS) with the School of Chemical and Biomedical Engineering (SCBE). The former was previously housed in the College of Science, whereas the latter was previously one of the academic units within the College of Engineering.

Jointly overseen by the Colleges of Science and Engineering, the School of CCEB is governed by a board comprising the Deans from both colleges and the Dean of the Lee Kong Chian School of Medicine. The global search for a new Chair to helm the school is ongoing.

The School of CCEB welcomed its first batch of 420 freshman at the start of the new academic year beginning August.

Together with existing matriculated students from the Division of Chemistry and Biological Chemistry, and those from the School of Chemical and Biomedical Engineering (SCBE), the total student strength of the new school is more than 2,000.

Professor Louis Phee, Dean, College of Engineering, said, “The new interdisciplinary school will enable engineering students to understand the fundamental science behind their work better. Likewise, science students will gain a better understanding of the applications of their studies. Such an academic approach will be useful when students enter the professional workforce since these fields of knowledge often overlap.

Mr Izren Zuhairee, a first-year student studying Bioengineering who has a Diploma in Biomedical Science, said, “While working with advanced machines for DNA studies during an internship, I was intrigued by the engineering behind the equipment and wondered how it works. Since I also enjoy tinkering as a hobby, I decided to enrol into the new interdisciplinary school as it seems to be a perfect fit for my interests, bringing together the biological science discipline with engineering into one synergistic course for students.”

Ms Reiko Eng, a third-year Chemical and Biomolecular Engineering student who aspires to work in the pharmaceutical industry, said, “Chemists play an important role in developing the process for a drug, while chemical engineers ensure the drug can be manufactured. By studying in a school with an interdisciplinary focus, I can be exposed to both science and engineering fields, which may allow me to have a more multi-faceted career in future.”

The School of CCEB provides a more comprehensive and holistic educational experience for students by leveraging existing collaboration among the constituent

academic entities, such as degree programmes that cover common second majors. They include Business, Economics, Food Science & Technology, and latest offerings in International Trading, and Entrepreneurship *(see Annex).*

Augmenting translational research

The synergies established by the new school across scientific disciplines and engineering practice also makes it well positioned for translational research that can benefit society.

The school of CCEB will serve as a platform to launch new research areas that integrate science and technology, such as in Food Science & Technology, to address food security, safety, and sustainability.

Professor Simon Redfern, Dean, College of Science, said, "The new interdisciplinary School offers a unique environment for chemists as well as chemical, and biotech engineers to engage, increasing opportunities for the exchange of ideas. This enhances opportunities for learning, collaboration and interdisciplinary research which may potentially lead to more innovations moving from the lab to market."

Dr Teo Yin Nah, Associate Director of Scientific Research at Illumina, a leading global biotechnology company, said, "Innovations and advanced technology in the market often involve overlapping domains of knowledge such as materials, chemistry, biotechnology, engineering, and medicine. With an interdisciplinary focus, the new school looks poised to become an attractive collaborator for the industry. Industry can get convenient access to experts in multifaceted fields all at once, accelerating R&D work to benefit society."

To further encourage deep intellectual thinking and innovation, CCEB is launching a competition centred on creativity and entrepreneurial spirit.

Organised in collaboration with NTUitive, NTU's innovation and enterprise company, the new **Budding Innovators Technathon (BIT)** challenges participants to develop innovations for a sustainable and inclusive society. The competition is open to all NTU students and local tertiary institutions. Winning teams will be supported with seed funding to bring their vision to fruition.

END

Media contact:

Ms Junn Loh
Manager, Media Relations
Corporate Communications Office
Nanyang Technological University, Singapore
Email: junn@ntu.edu.sg

About Nanyang Technological University, Singapore

A research-intensive public university, Nanyang Technological University, Singapore (NTU Singapore) has 33,000 undergraduate and postgraduate students in the Engineering, Business, Science, Humanities, Arts, & Social Sciences, and Graduate colleges. It also has a medical school, the Lee Kong Chian School of Medicine, set up jointly with Imperial College London.

NTU is also home to world-class autonomous institutes – the National Institute of Education, S Rajaratnam School of International Studies, Earth Observatory of Singapore, and Singapore Centre for Environmental Life Sciences Engineering – and various leading research centres such as the Nanyang Environment & Water Research Institute (NEWRI) and Energy Research Institute @ NTU (ERI@N).

Ranked amongst the world's top universities by QS, NTU has also been named the world's top young university for the past seven years. The University's main campus is frequently listed among the Top 15 most beautiful university campuses in the world, and it has 57 Green Mark-certified (equivalent to LEED-certified) building projects, of which 95% are certified Green Mark Platinum. Apart from its main campus, NTU also has a campus in Singapore's healthcare district.

Under the NTU Smart Campus vision, the University harnesses the power of digital technology and tech-enabled solutions to support better learning and living experiences, the discovery of new knowledge, and the sustainability of resources.

For more information, visit www.ntu.edu.sg

ANNEX

The establishment of the **School of Chemistry, Chemical Engineering and Biotechnology (CCEB)** provides the opportunity to develop new courses and programmes as appropriate, based on the integration of chemistry and biological chemistry with chemical and biomedical engineering.

Current degree programmes on offer as follows:

Bachelor of Science (B.Sc) in Chemistry and Biological Chemistry (CBC)

- B.Sc. (Hons) in Chemistry and Biological Chemistry (CBC)
- B.Sc. (Hons) in CBC with Second Major in Food Science & Technology
- B.Sc. (Hons) in CBC with Second Major in Environmental Science
- B.Sc. (Hons) in CBC with Second Major in Business (International Trading)
- B.Sc. (Hons) in CBC with Second Major in Data Analytics – *newly launched*

Bachelor of Engineering (B.Eng) in Bioengineering (BIE)

- B.Eng. (Hons) in Bioengineering (BIE)
- B.Eng. (Hons) in BIE with Second Major in Business (Mainstream)
- B.Eng. (Hons) in BIE with Second Major in Business (International Trading)
- B.Eng. (Hons) in BIE with Second Major in Food Science and Technology
- B.Eng. (Hons) in BIE with Second Major in Pharmaceutical Engineering
- B.Eng. (Hons) in BIE with Second Major in Entrepreneurship – *newly launched*
- B.Eng. (Hons) in BIE with Second Major in Data Analytics – *newly launched*

Double Degree in Bachelor of Engineering (B.Eng) and Bachelor of Social Sciences

- (B.SocSci) in Economics
- B.Eng. (Hons) in CBE and B.SocSci. (Hons) in Economics
- B.Eng. (Hons) in BIE and B.SocSci. (Hons) in Economics

Post-graduate Programme by Research

- Master of Science (M.Sc.) in Chemistry
- Master of Engineering (M.Eng) in Chemistry and Biomedical Engineering
- Doctor of Philosophy (PhD) in Chemistry
- Doctor of Philosophy (PhD) in Chemistry and Biomedical Engineering

Post-graduate Programme by Coursework

- M.Sc. in Chemical Sciences and Instrumentation

*****