

## HIGHER EDUCATION AND SKILLS TRAINING

### Source of Data

Statistics on starting salaries of graduates are collected through the Graduate Employment Survey conducted by publicly-funded local universities, polytechnics and Institute of Technical Education (ITE). The monthly gross starting salary comprises the basic salary, fixed allowances, overtime pay and commissions, but does not include bonuses, as the graduates generally would not have worked long enough to get bonus payouts. The data pertain to graduates in full-time permanent employment, including those on contracts of one year or more.

Statistics on the number of graduates from the institutions of higher learning in Singapore are provided by the National University of Singapore, Nanyang Technological University (including National Institute of Education), Singapore Management University, Singapore University of Technology and Design, Singapore Institute of Technology, Singapore University of Social Science, Singapore Institute of Management, Singapore Polytechnic, Ngee Ann Polytechnic, Temasek Polytechnic, Nanyang Polytechnic and Republic Polytechnic.

Statistics on the number of persons who completed or participated in vocational

or professional skills training courses are provided by the Institute of Technical Education, SkillsFuture Singapore, Workforce Singapore, National Trade Union Congress, Building and Construction Authority Academy, Ong Teng Cheong Labour Leadership Institute and Singapore Human Resources Institute.

### About the Institutions

The **National University of Singapore** (NUS) was established in 1980 with the merger of the University of Singapore (founded in 1962) and Nanyang University (founded in 1955).

NUS has 17 faculties and schools, namely:

- Faculty of Arts and Social Sciences;
- NUS Business School;
- School of Computing;
- School of Continuing and Lifelong Education;
- Faculty of Dentistry;
- School of Design and Environment;
- Faculty of Engineering;
- Faculty of Law;
- Yong Loo Lin School of Medicine;
- Yong Siew Toh Conservatory of Music;
- Faculty of Science;
- University Scholars Programme;

- Yale-NUS College;
- Saw Swee Hock School of Public Health;
- NUS Graduate School for Integrative Sciences and Engineering;
- Lee Kuan Yew School of Public Policy;
- Duke-NUS Medical School.

The NUS Graduate School for Integrative Sciences and Engineering, Lee Kuan Yew School of Public Policy and Duke-NUS Medical School offer higher degree courses only. The School of Continuing and Lifelong Education offers courses for professional adult learners. There is also a specialty institute known as the Institute of Systems Science offering higher degree courses and executive education programmes.

The **Nanyang Technological University** (NTU Singapore) was established in 1991 and has roots that go back to 1981 when its predecessor institution, Nanyang Technological Institute (NTI), was set up on the grounds of the former Nanyang University as a teaching university.

NTU is organised into the following colleges and schools:

### Colleges and Schools

#### *College of Engineering*

- School of Chemical and Biomedical Engineering
- School of Civil and Environmental Engineering

- School of Computer Science and Engineering
- School of Electrical and Electronic Engineering
- School of Materials Science and Engineering
- School of Mechanical and Aerospace Engineering

#### *College of Business*

- Nanyang Business School

#### *College of Science*

- Asian School of the Environment
- School of Biological Sciences
- School of Physical and Mathematical Sciences

#### *College of Humanities, Arts & Social Sciences*

- School of Art, Design and Media
- School of Humanities
- School of Social Sciences
- Wee Kim Wee School of Communication and Information

#### *Interdisciplinary Graduate School*

A graduate school that supports PhD research in the University's interdisciplinary research centres, covering Sustainable Earth, Secure Community, Healthy Society and Global Asia.

#### *Lee Kong Chian School of Medicine*

A joint medical school between NTU and Imperial College London in Singapore, offering a five-year MBBS programme.

*College of Professional and Continuing Education (PaCE College)*

A college that provides adult education and professional development for Singapore's workforce.

Autonomous entities

- National Institute of Education (NIE);
- S Rajaratnam School of International Studies (RSIS);
- Earth Observatory of Singapore (EOS);
- Singapore Centre for Environmental Life Sciences Engineering (SCELSE); and
- Wealth Management Institute (WMI).

The **Singapore Management University** (SMU) was incorporated in 2000.

SMU comprises six schools, namely:

- Lee Kong Chian School of Business;
- School of Accountancy;
- School of Economics;
- School of Information Systems;
- School of Law; and
- School of Social Sciences.

Together, they offer Bachelor's, Master's and PhD degree programmes and executive development and professional programmes. Through SMU Executive Development and the SMU Academy, SMU also provides customised corporate training and lifelong learning for individuals and organisations.

The **Singapore University of Technology and Design** (SUTD) was established in 2009.

SUTD offers degrees in the following four pillars:

- Architecture and sustainable design,
- Engineering product development,
- Engineering systems and design, and
- Information systems technology and design.

SUTD also offers multiple post-graduate programmes. In addition, skill-based professional education and training courses are available at the SUTD Academy launched in 2018.

The **Singapore Institute of Technology** (SIT) was established in 2009.

SIT offers degree programmes targeted at growth sectors of the economy and spanning five clusters:

- Engineering
- Chemical Engineering and Food Technology
- Infocomm Technology
- Health and Social Sciences
- Design and Specialised Businesses

In AY2017, SIT offers a total of 41 degree programmes from across SIT and nine overseas universities, including DigiPen Institute of Technology, Massy University, Newcastle University, Technical University of Munich, The Culinary Institute of America, The Glasgow School of Art, Trinity College

Dublin, University of Glasgow, and University of Liverpool.

The **Singapore University of Social Sciences** (SUSS) was established in 2005 under its former name of SIM University.

SUSS offers fresh school leavers and adult learners more than 70 degree programmes in various disciplines, through five Schools:

- School of Arts and Social Sciences
- School of Business
- S R Nathan School of Human Development
- School of Law
- School of Science and Technology.

The **Singapore Institute of Management** (SIM Group) was founded in 1964 to support Singapore's economic development. SIM Group offers its educational and training services through the following brands:

- *SIM Global Education* students can choose from academic programmes ranging from SIM's diploma and graduate diploma courses to Bachelor's and Master's programmes with universities and institutions from Australia, Europe, the United Kingdom and the United States. SIM Global Education also offers part-time programmes that cater to adult learners.
- *SIM International Academy* offers the Cambridge International General Certificate of Secondary Education and Cambridge International A Level to students aged 12 to

18. The curriculum is designed to focus on applied learning in STEM (Science, Technology, Engineering and Mathematics) as well as the Social Sciences.

- *SIM Professional Development* offers learning experience for top senior executives and PMEs.
- *Platform E* is an entrepreneurship ecosystem that offers programmes to entrepreneurs.

The **Singapore Polytechnic** (SP), founded in 1954, is the first polytechnic to be established in Singapore.

In 2017, SP offered 47 full-time courses that lead to diploma qualifications in various fields.

SP is organised into 10 schools (School of Architecture & the Built Environment, SP Business School, School of Chemical & Life Sciences, School of Communication, Arts & Social Sciences, SP Design School, School of Digital Media & Infocomm Technology, School of Electrical & Electronic Engineering, School of Mechanical & Aeronautical Engineering, School of Mathematics & Science and Singapore Maritime Academy).

The **Ngee Ann Polytechnic** (NP) assumed its name in 1982. It was initially established as a private institution in 1963 under the name of Ngee Ann College. It became a public institution and was renamed Ngee Ann Technical College in 1968.

In FY 2017, the Polytechnic offered 49 full-time diploma courses.

The **Temasek Polytechnic** (TP) was established in 1990. It is organised into seven schools, namely Applied Science, Business, Design, Engineering, Humanities & Social Sciences, Informatics & IT, and Centre for Foundation Studies. They offer a total of 46 diploma courses and 44 Polytechnic Foundation Programme courses in 2018. TP also conducts part-time courses for working adults.

The **Nanyang Polytechnic** (NYP) was established in 1992 to provide quality education and training opportunities for school leavers. The Polytechnic currently has seven schools offering a wide range of courses in Business Management, Chemical & Life Sciences, Design, Engineering, Health Sciences, Information Technology, and Interactive & Digital Media, for school leavers, fresh graduates and working professionals.

The **Republic Polytechnic** (RP) was established in 2002 as the fifth polytechnic in Singapore. RP has seven schools and one academic centre offering 41 full-time diplomas in Applied Science, Engineering, Management and Communication, Hospitality, Infocomm, Sports, Health & Leisure, and Technology for the Arts. RP's Continuing Education and Training (CET) arm also provide adult learners with a range of part-time courses to acquire new skills and capabilities.

The **Institute of Technical Education** (ITE) was established in 1992 as a post-secondary institution which provides pre-employment training for secondary school graduates and Continuing Education and Training (CET) for adult learners.

ITE offers full-time and traineeship programmes to secondary school graduates, as well as skills training and academic education programmes to adult learners. Employees can also undergo On-the-Job Training in companies which are Certified On-the-Job Training Centres. In addition, ITE conducts skills evaluation tests for public candidates and instructional skills and related programmes for industry trainers.

Full-time training is offered to secondary school graduates with the GCE 'O' and 'N' Level qualifications in Applied & Health Sciences, Business & Services, Design & Media, Engineering, Hospitality

and Electronics & Info-communications Technology. Upon completion of the courses, students are awarded a Higher National ITE Certificate (*Higher Nitec*) or National ITE Certificate (*Nitec*). ITE also offers Technical Diploma programmes in niche areas in collaboration with overseas institutions as another pathway for upgrading.

The Traineeship programme is an 'earn-as-you-learn' scheme for secondary school graduates or adult learners who wish to work and upgrade concurrently. It has two training components - On-the-Job Training (OJT) and Off-the-Job Training (Off-JT). OJT is conducted by the sponsoring companies on their premises while Off-JT could be provided by ITE or companies certified by ITE as Approved Training Centres.

Adult learners may choose from a range of CET programmes from *Nitec*, *Higher Nitec*, *Specialist Nitec* to ITE Skills Certificate (ISC) courses, to upgrade their skills. These programmes are offered in modules, giving adult learners the flexibility to sign up for training based on their needs.

Adult learners who wish to acquire academic qualifications otherwise obtained through the formal school system, can enrol in the part-time General Education Programme from Secondary One (Normal) to GCE 'N' and GCE 'O' Levels.

In April 2018, ITE launched four Work-Learn Technical Diploma (WLTD), namely in Marine & Offshore Engineering, Mechanical & Electrical Services Supervision, Rehabilitation Care and Security Systems Engineering. The WLTD is an apprenticeship-based training programme delivered in partnership with employers to give *Nitec* and *Higher Nitec* graduates a head-start in careers related to their discipline of study. The training comprises of Off-JT at ITE and OJT at the companies.

The **SkillsFuture Singapore** (SSG) is a statutory board under the Ministry of Education (MOE) that drives and coordinates the implementation of the national SkillsFuture movement, promotes lifelong learning, and strengthens the ecosystem of quality education and training in Singapore.

Together with educational institutions and training partners, SSG brings to students and working adults access to training throughout life. SSG synergises continuing education and training (CET) and pre-employment training (PET) so that skills requirements will continue to meet the demands of different sectors of the economy.

The **Workforce Singapore** (WSG) is a statutory board under the Ministry of Manpower. It strives to minimise mismatches and maximise matching between jobs and skills, workers and businesses by working with individuals, businesses and partners such that innovation-driven growth of our economy can also provide inclusive growth for our people.

WSG works with individuals to help them find jobs, build careers at all life stages and manage career transitions throughout their lives. WSG also promotes the inclusiveness of all levels of our workforce.

WSG supports businesses to adopt new business models, be more manpower lean and create progressive workplaces, so that businesses can create quality jobs to attract and build a stronger Singaporean core.

The Professional Conversion Programmes (PCPs), which are run by WSG, were introduced in 2007 to help professionals, managers, executives and technicians (PMETs) convert and upgrade their skills and make career switches to jobs in growth areas.

The **Employment and Employability Institute** (e2i) creates solutions for better employment and employability. An initiative of the National Trades Union Congress (NTUC), e2i assists Singapore workers through Career Coaching, Training and Job Matching initiatives, impacting more than 610,000 workers since 2008.

*BCA Academy* is the education and research arm of the **Building and Construction Authority** (BCA), Singapore. Since its establishment in 1984, BCA Academy has been offering built environment programmes to a diverse group of audience.

BCA Academy also partners with universities to deliver leadership programmes to develop the managerial and technical competencies of the industry leaders.

The **Ong Teng Cheong Labour Leadership Institute** (OTCi) was founded as the Singapore Institute of Labour Studies in 1990 by the National Trades Union Congress (NTUC). It was renamed the Ong Teng Cheong Institute of Labour Studies in 2002 to remember the late Mr. Ong Teng Cheong, former President of the Republic of Singapore (1993 to 1999) and Secretary General of the NTUC (1983 to 1993), who was instrumental in the setting up of the Institute. Today, the Institute's key focuses are:

- 1) To study the various aspects of issues and challenges affecting working people, the Labour Movement and Tripartism in Singapore.
- 2) To develop a strong core of Labour Leaders and partners, and assist them in progression and placement in their careers.
- 3) To facilitate collaboration between tripartite stakeholders in ways that benefit working people in Singapore.

The **Singapore Human Resources Institute** (SHRI) is a not-for-profit professional HR body and is committed to advocating HR best practices, connecting a community of HR professionals and business leaders and enhancing the HR profession.

SHRI Academy is a School of Human Capital Management of SHRI that offers adult learners lifelong learning opportunities and a diverse range of academic programmes, from basic certificates to master degree levels.

SHRI Academy also offers students Bachelor's and Master's programmes, in partnership with Edinburgh Napier University.