

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 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, Singapore Workforce

Development Agency, Building and Construction Authority Academy, Ong Teng Cheong Labour Leadership Institute, Institute of Systems Science (National University of Singapore) and Singapore Human Resources Institute.

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

NUS has 16 faculties and schools, namely:

- Faculty of Arts and Social Sciences;
- NUS Business School;
- School of Computing;
- 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 Graduate Medical School Singapore.

The NUS Graduate School for Integrative Sciences and Engineering, Lee Kuan Yew School of Public Policy and Duke-NUS Graduate Medical School Singapore offer higher degree courses only. There is also a teaching institute known as the Institute of Systems Science.

The **Nanyang Technological University** (NTU) has roots that go back to 1955 when Nanyang University was set up. In 1981, Nanyang Technological Institute (NTI) was established on the premises of the former Nanyang University. In 1991, NTI was inaugurated as NTU with the absorption of the National Institute of Education. The alumni rolls of the former Nanyang University were transferred to NTU in 1996.

The University is organised into six colleges/ schools:

Colleges and Schools

College of Engineering

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

- 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 and 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 in Sustainable Earth, New Media and Future Healthcare.

Lee Kong Chian School of Medicine

Established in 2010 as a joint medical school between NTU and Imperial College London, offering a five-year MBBS programme.

Autonomous entities

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

The **Singapore Management University** (SMU) incorporated in 2000, is Singapore's third university. The University provides a broad-based,

multi-disciplinary American-style pedagogy which uses the MBA approach to teaching undergraduates in small seminar-style classes.

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 in business and other disciplines.

SMU also offers executive education which brings executives back to school for professional development and competency training.

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

- *SIM University* (UniSIM) is the only national private university in Singapore. Home to more than 14,000 students, UniSIM adopts a flexible and practice-focused learning approach and offers more than 50 academic programmes (part-time and full-time) in various disciplines. Eligible students taking

UniSIM's undergraduate programmes enjoy government subsidies and access to government bursaries, tuition fee and study loans. UniSIM is a not-for-profit university and the SIM University Education Fund has been a Singapore 'Institution of a Public Character' (IPC) since September 2005.

- *SIM Global Education* students can choose from a wide range of overseas degree programmes made available through SIM's partnership with international universities and institutions from the United Kingdom, United States, Australia and Switzerland. Most of the students are undergoing full-time programmes, but SIM Global Education also offers part-time programmes that cater to working adults. Offering over 50 academic programmes, its enrolment stands at 23,000, with about 2,500 foreign students.
- *SIM Professional Development* trains about 11,000 professionals annually through its selection of short executive training programmes. Its customised in-company training programmes help companies optimise effectiveness in various fields of management and human resource development.

The **Singapore Polytechnic** (SP), founded on 27 October 1954, is the first polytechnic to be established in Singapore.

SP offers full-time studies leading to diploma qualifications in various fields, including Applied Arts, Communication, Aerospace, Architecture & Built Environment, Business Management & Finance, Chemical & Life Sciences, Design, Digital Media, Infocomm Technology, Engineering, Health & Nutrition, Optometry and Maritime.

In FY 2013, the Polytechnic offered a range of 50 full-time courses at diploma level.

In addition, part-time courses are offered through the Polytechnic's Professional & Adult Continuing Education (PACE) Academy for working adults and polytechnic graduates to upgrade themselves.

The **Ngee Ann Polytechnic** (NP) assumed its name in April 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 2013, the Polytechnic offered 48 full-time diploma courses.

The Polytechnic's Continuing Education and Training (CET) Academy conducts courses aimed at upgrading the

skills and knowledge of the general workforce.

In addition, Ngee Ann conducts customised in-company training programmes based on the specific training needs of the organisations concerned.

The **Temasek Polytechnic** (TP) was established on 6 April 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 51 diploma courses and 45 Polytechnic Foundation Programme courses in 2014. 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.

NYP offers a host of full-time diploma courses for pre-employment training and various continuing education courses at advanced diploma, specialist diploma and certificate course levels.

The **Republic Polytechnic** (RP) was established on 1 August 2002 as the fifth polytechnic in Singapore.

RP has six schools and two academic centres offering 39 full-time diplomas in Applied Science; Engineering; Enterprise and Communication; Hospitality; Infocomm; Sports, Health & Leisure; and Technology for the Arts.

RP's Academy for Continuing Education, or ACE@RP offers a suite of continuing education and training (CET) programmes for working adults to enhance their skills and capabilities.

The **Institute of Technical Education** (ITE) was established on 1 April 1992 as a post-secondary institution which provides pre-employment training for secondary school leavers and Continuing Education and Training (CET) for adult learners.

ITE offers full-time training and traineeship programmes to school leavers, 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 leavers with the GCE 'O' and 'N' Level qualifications in Applied & Health Sciences, Business & Services, Design & Media, Engineering, Hospitality and Info-communications Technology. Upon completion of the courses, students are awarded a Higher National ITE Certificate (*Higher Nitec*) and 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 leavers 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 companies certified by ITE as Approved Training Centres.

Adult learners may choose from a range of part-time education programmes from *Higher Nitec*, *Nitec*, *Specialist Nitec* to ITE Skills Certificate (ISC) courses, to upgrade their skills. These programmes are offered in modules, giving adults 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.

The **Singapore Workforce Development Agency** (WDA) aims to enhance the competitiveness and employability of workers by helping them acquire skills to adapt in a changing economy.

To achieve this, WDA works with industry leaders, labour unions, employers, economic agencies, professional associations and training organisations.

WDA also supports the growth of Singapore industries by building a pipeline of competent workers through the constant upgrading of workers' skills, supporting companies' productivity enhancement efforts, and raising industry performance standards.

The Singapore Workforce Skills Qualifications System (WSQ) was launched in October 2005. It is a national qualifications system, which provides training and certifications for adult workers to obtain nationally recognised and industry-relevant qualifications. WSQ emphasises flexible competency-based adult learning, open access to skills

upgrading and clear career progression pathways for workers to upgrade their skills.

The WSQ is anchored on the development of skills and competencies linked to occupational structures, in close consultation with industries. Under WSQ, competency standards, assessment strategies and training curriculum incorporating adult learning principles, are established for each key industry.

As at December 2013, WDA has developed 34 WSQ frameworks covering key sectors of the economy, and trained about 314,000 individuals under these frameworks. In addition, WDA has appointed 51 CET centres to provide skills training for various sectors such as aerospace, tourism, security and new areas like the creative industries and environment technology.

WDA introduced the Professionals Conversion Programme (PCP) in April 2007 to help professionals, managers, executives and technicians (PMEs) convert and upgrade their skills and make career switches in sectors, such as precision engineering, aerospace, healthcare, community & social services and training. As at December 2013, 6,100 PMEs had either successfully completed training or are still undergoing training since the start of the PCP.

Since January 2009, the National Trades Union Congress (NTUC) has consolidated its CET efforts including the Job Re-creation Programme (JRP), and career assistance and placement, etc under its Employment and Employability Institute (e2i). In 2012, e2i assisted about 58,000 workers in industries such as Construction, Food & Beverage, Retail, Tourism and Security.

The Skills Development Fund (SDF) was set up in 1979 with the Skills Development Levy collected from employers. The SDF provides course fee subsidies to employers and training institutions to support the skills upgrading of Singapore's workforce. Over the years, the SDF has helped Singapore companies develop a strong training culture and strengthened the concept of lifelong learning so that workers can keep up with the changing demands of the employment landscape.

The Lifelong Learning Endowment Fund (LLEF) was set up in March 2001, with an initial capital of \$500 million. Through further capital contributions from the Government, the capital sum of the LLEF will reach \$4.6 billion in FY 2014¹. WDA taps on the LLEF to fund lifelong learning initiatives, including employment facilitation for unemployed Singaporeans through its career centres operated in collaboration with the Community Development Councils;

¹ A financial year begins on 1 April and ends on 31 March the following year.

development of CET infrastructure and training capabilities and outreach and promotion. The LLEF complements the SDF to ensure a holistic approach to the upgrading of Singapore's workforce.

The **Building and Construction Authority** (BCA) was established in April 1999. Its mission is to shape a safe, high quality, sustainable and friendly built environment.

BCA Academy is the education and research arm of BCA. It provides training, learning and research programmes for the advancement of the building industry and the development of the built environment. It plays a key role in ensuring that the skills and expertise required to shape a safe, high quality, sustainable, and friendly built environment are readily available. The Academy aims to serve as the national centre for the training and education of craftsmen, technical and professional personnel for the industry, and for research and development on the built environment.

The **Ong Teng Cheong Labour Leadership Institute** was founded as the Singapore Institute of Labour Studies in 1990 by the National Trades Union Congress (NTUC). In 2002, the Institute changed its name to Ong Teng Cheong Institute of Labour Studies to commemorate the contributions of the late Mr. Ong Teng Cheong, a former Secretary-General of the

NTUC and President of the Republic of Singapore. In 2009, the institute integrated with NTUC Leadership Development Department and took on its present name to create the hub for labour leadership development and advancing tripartism.

The Institute is guided by a Board of Governors comprising senior leaders from the government, trade unions, industry and academia. The Institute offers the following programmes :

- Continuing Professional Development Programmes;
- International Programmes;
- Progressive Leadership Development Programmes;
- Public Courses; and
- Union-Management Programmes.

Established in 1981, the **Institute of Systems Science** (ISS) at the National University of Singapore (NUS) provides graduate education, professional development courses, consultancy and research services. Its objectives are to develop infocomm leaders, and drive business and organisation innovation.

ISS is appointed the National Continuing Education and Training (CET) Centre for the National Infocomm Competency Framework (NICF) by Singapore Workforce Development Agency (WDA). It is also a Programme Partner for WDA's Service Excellence Competency & Creative Industries Frameworks. The

institute is accredited by international and local accreditation and certification bodies to deliver programmes that lead to recognised certifications and qualifications. It also conducts research, organises management, technology and innovation update seminars and provides consulting services to the industry. The Singapore e-Government Leadership Centre (eGL) in ISS helps government leaders innovate and transform through e-Government education, and consulting and research.

To date, over 84,000 infocomm professionals, 5,100 corporate customers and 4,100 post-graduate alumni members have benefitted from programmes that ISS offers.

The **Singapore Human Resources Institute** (SHRI) is a not-for-profit professional organisation that owns a network of over 3,000 members and organisations that collectively represent the interest of some 750,000 employees in Singapore. Founded in 1965, SHRI promulgates sound, effective and appropriate human resource practices. SHRI organises events such as the Singapore HR Congress and Business-Connect Exposition, SHRI HR Awards and SHRI HR Challenge as a platform to connect the HR community and to enhance their capability and professional development.

The SHRI Group consists of SHRI Academy Pte Ltd and SHRI Corporation Pte Ltd.

SHRI Academy Pte Ltd, a wholly-owned subsidiary of SHRI Corporation Pte Ltd, is a training institution that caters to the learning and development needs of adult trainees and learners, including industry leaders and senior managers, working professionals and academic students, both local and international.

SHRI Academy offers a range of academic programmes – from basic certificate to master degree levels under the School of Human Capital Management. SHRI Academy works with Edinburgh Napier University (UK).