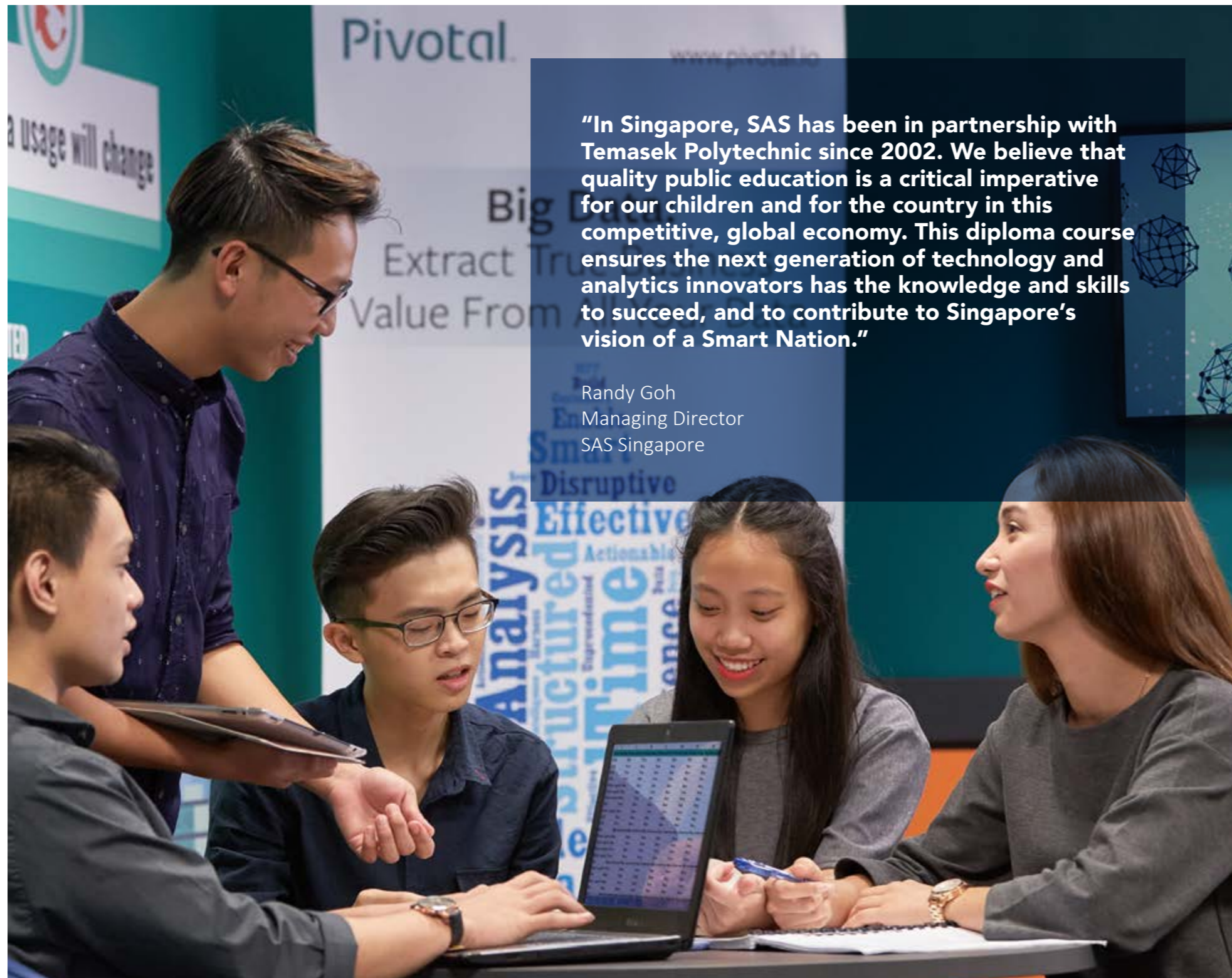


# Big Data & Analytics



**"In Singapore, SAS has been in partnership with Temasek Polytechnic since 2002. We believe that quality public education is a critical imperative for our children and for the country in this competitive, global economy. This diploma course ensures the next generation of technology and analytics innovators has the knowledge and skills to succeed, and to contribute to Singapore's vision of a Smart Nation."**

Randy Goh  
Managing Director  
SAS Singapore

Do you know that big data plays a major role in our lives? For instance, soccer clubs analyse data about game play to gain a strategic competitive advantage. Digital cameras are placed in stadiums to track every player on the pitch for game insights and soccer players wear state-of-the-art equipment like GPS trackers, acceleration sensors and heart rate monitors so that their game preparations can be analysed and optimised. Indeed, big data is big business today!

Big data also extends itself to everyday activities such as online shopping with websites leveraging big data to provide a better shopping experience for their customers. For instance, online shopping giants like Amazon use big data to cut delivery times by predicting what online shoppers are going to buy and start delivering the product even before the customer clicks 'buy'!

In the first year of studies, you will master IT fundamentals that equip you with skills in areas such as software development, networking and data analytics. In your second year, you will acquire industry-specific competencies in business intelligence, big data management and business analytics. You will also attain highly sought-after professional certifications in Data Engineering, which underscores

the technical competency you have built through the curriculum. In your final year, you will have opportunities to be attached to local or overseas companies where you will use the skills you have acquired in a real work environment.

Indeed, with big data gaining popularity in today's landscape, it is an exciting time to be a big data professional. In fact, the Singapore Government has come up with initiatives to create a vibrant Data and Analytics ecosystem and position the country strategically as an international Data and Analytics Hub.

Upon graduating, our students can pursue further studies through the Earn & Learn Programme which enables them to work and deepen their skills, or they can undertake degree courses at local or overseas universities.

## Career Opportunities

Graduates can expect good career prospects across many industries with local and multinational businesses, government agencies, financial and banking institutions and consulting firms. They can take up positions as Data Analysts, Data Engineers, Associate Business Analysts, Business Intelligence Analysts, Data Mining Specialist, System Analyst and Database Administrators.

## Graduation Requirements

Cumulative Grade Point Average : min 1.0

TP Fundamentals Subjects : 40 credit units

Diploma Subjects

Core Subjects : 72 credit units

Elective Subjects: min 8 credit units

Total Credit Units Completed : min 120 credit units

## Application

Apply during the Joint Admissions Exercise following the release of the GCE O Level results. For other categories of local applicants, please refer to the section on “Admission and Requirements”. For international students, please refer to the section on “Information for International Students”.

## Entry Requirements for Singapore-Cambridge GCE O Level Qualification Holders

To be eligible for consideration for admission, applicants must obtain 26 points or better for the net ELR2B2 aggregate score (i.e. English Language, 2 relevant subjects and best 2 other subjects, including CCA Bonus Points) and meet the minimum entry requirements of this course. CCA cannot be used to meet the minimum entry requirements.

For details on GCE O Level Minimum Entry Requirements, refer to page 214.

*Note: Applicants with complete colour vision deficiency are not eligible to apply for this course.*

## Course Structure

TP FUNDAMENTALS (TPFun) SUBJECTS				
SUBJECT CODE	SUBJECT	LEVEL	CREDIT UNITS	
CCS1006	Communication & Information Literacy	1	2	
CCS1007	Workplace Communication	1	2	
CCS1008	Persuasive Communication	1	2	
CGS1002	Global Studies	1	3	
CGS1003	Managing Diversity at Work*	1	3	
CGS1004	Global Citizenship & Community Development*	1	3	
CGS1005	Expressions of Culture*	1	3	
CIN1001	Innovation & Entrepreneurship	1	2	
GCC1001	Current Issues & Critical Thinking	1	2	
LEA1011	Leadership: Essential Attributes & Practice 1	1	1	
LEA1012	Leadership: Essential Attributes & Practice 2	1	1	
LEA1013	Leadership: Essential Attributes & Practice 3	1	1	
LSW1002	Sports & Wellness	1	2	
MCR1001	Career Readiness 1	1	1	
MCR1002	Career Readiness 2	1	1	
MCR1003	Career Readiness 3	1	1	
TGL1001	Guided Learning	1	3	
CSI3004	Student Internship Programme	3	16	

\* Students must choose one of these three subjects or TGL1001 Guided Learning.

### DIPLOMA SUBJECTS – CORE SUBJECTS

SUBJECT CODE	SUBJECT	LEVEL	CREDIT UNITS
CCF1C02	IT Systems Security Essentials	1	4
CIA1C06	Database Application Development	1	4
CIA1C07	Logic & Mathematics	1	3
CIA1C10	Data Analytics	1	4
CIT1C14	Data Structures & Algorithms	1	4
CIT1C18	Computational Thinking	1	4
CIT1C19	User Experience & Interface Design	1	3
CIT1C20	Coding & Development Project	1	4
CMC1C08	Network Technology	1	4
CDA2C01	Data Warehousing & Business Intelligence	2	4
CDA2C02	Data Mining & Business Analytics	2	4
CDA2C03	Big Data Architecture & Programming	2	4
CIA2C12	Quantitative Analysis	2	4
CIA2C13	Data Visualisation	2	4
CIA2C14	Data Science Essentials	2	4
CIG2C06	Data Security & Governance	2	4
CMP3104	Major Project	3	10

### DIPLOMA SUBJECTS – ELECTIVE SUBJECTS

SUBJECT CODE	SUBJECT	LEVEL	CREDIT UNITS
CDA2E04	Web & Mobile Analytics	2	4
CIA2E01	Text & Social Media Analytics	2	4
CIA3E01	Applied Data Science in a Business Domain	3	4
CIT3C15	Machine Learning for Developers	3	4