SUMMER PROGRAMME INFORMATION SHEET 2019

Dear Prospective Summer Students,

You are invited to join us at one of the world's most beautiful campus for our exciting **GEM Trailblazer Summer Term programme** at NTU starting from June to July 2019.

Five tracks will be offered this summer:

Track 1: Language & Cultural Studies

Track 2: Entrepreneurship & Innovation

Track 3: Creative Design and Media

Track 4: Success in the Globalised Marketplace

Track 5: New Technologies, New World

Make friends from all around the world!

Ranked among the top 1% of universities worldwide, NTU places you in an academically stimulating environment that is both culturally and socially enriching. Our comprehensive and innovative approach towards education and research will help contribute to your future success and inspire you to realise your full potential as an entrepreneurial and technologically-savvy leader.

Located in Singapore, NTU is the perfect spot in the heart of a booming Asia-Pacific region to learn and explore the many cultures, languages and races that can be found on this cosmopolitan island.

While you soak up a summer of fascinating Asian cultural experiences as a student, you would have the opportunity to equip yourself with key entrepreneurial skills to venture into Asia, where more than 4.5 billion of the world's population lives.

Application for the summer programme is open to all full-time university students. We welcome you to join some of the brightest minds and talents from around the world in Singapore this summer.

Welcome to the start of a wonderful journey of learning and self-discovery!

Priscilla Lee
Assistant Director
Office of Global Education and Mobility
Nanyang Technological University

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ABOUT SINGAPORE

Singapore – A Garden City

Singapore is a compact island of only about 682 km^2, but it has seen extraordinary growth and progress throughout its history since its founding. In just 150 years, Singapore has transformed into a leading vibrant economic hub despite limited land and not having any natural resources.

Singapore is now a cosmopolitan society where people live harmoniously and interact with different races. Visitors can enjoy the best of Chinese, Malay, Indian and Eurasian cultures through the many traditional and religious festivals that fill the Singapore calendar.

Located in the heart of Asia, Singapore enjoys a robust economy driven by a highly educated workforce, excellent connectivity, and high standard of living. It tops the world rankings in key sectors of Competitiveness and Business Environment, Economic Performance, Business Legislation and Efficiency.

Singapore has the world's busiest port and one of the world's major oil refining and distribution center. Rated as one the world's easiest place to do business, it is host to more than 7,000 MNCs and 150 international organizations. As a major air, sea and telecommunications hub, its strategic position in Asia offers easy access to more than 300 cities in 60 international destinations within a 7-hour flight radius from Changi Airport, consistently rated as the world's best airport.

For more information on Singapore, you may visit the official Singapore Tourism Website:
https://www.visitsingapore.com/en/

ABOUT NTU

NTU – A Garden Campus

A research-intensive public university, Nanyang Technological University (NTU) has 33,500 undergraduate and postgraduate students in the colleges of Engineering, Business, Science and Humanities, Arts & Social Sciences. In 2013, NTU enrolled the first batch of students at its new medical school, the Lee Kong Chian School of Medicine, 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, Singapore Centre on Environmental Life Sciences Engineering and the Wealth Management Institute – and various leading research centres such as the Nanyang Environment & Water Research Institute (NEWRI) and the Energy Research Institute @ NTU (ERI@N).

Ranked 11th in the world, NTU is top in Asia and has been placed as the world's top young university for the past four years. The university's main campus is frequently listed among the Top 15 most beautiful university campuses in the world.

At any one time, NTU has on campus students from more than 100 nationalities. With more than 300 academic partners, international exchange students are an integral part of our vibrant community.

Besides its 200-ha (500-acre) lush green, residential campus in the western part of Singapore, NTU also has a second campus in the heart of Novena, Singapore's medical district.

For more information, please visit the NTU corporate website at http://www.ntu.edu.sg.

PROGRAMME DATES AT A GLANCE

Summer Academic Calendar (AY18-19)	2-week programme : 1 Jul 2019 to 12 Jul 2019; 15 Jul 2019 to 26 Jul 2019 4-week programme : 1 Jul 2019 to 26 Jul 2019 6-week programme : 24 Jun 2019 to 2 Aug 2019
Summer Programme Tracks (AY18-19)	Track 1: Language & Cultural Studies Track 2: Entrepreneurship & Innovation Track 3: Creative Design & Media Track 4: Success in the Globalised Marketplace Track 5: New Technologies, New World For further information on Summer tracks information: www.ntu.edu.sg/summerNTU or email: summerntu@ntu.edu.sg

APPLICATION & NOMINATION

Partner Nomination & Student Application Deadlines	**Partner Nomination by 29 March 2019** **Student Application by 19 April 2019**
Eligibility	Students may apply via exchange or fee-paying basis. **Exchange:** Students from any one of NTU's Exchange Partner Universities who have been nominated by their university as exchange students on a fee-waiver basis. **Fee-paying:** Students from any one of NTU's Exchange Partner Universities who have ***not*** been nominated as exchange students are automatically eligible for a 60% tuition fee discount; **OR** Students from non-partner universities *(Universities without exchange agreements with NTU)*
Language	All courses are taught in English except for CF9001 (Chinese Language & Cultural Studies) and LM9001 (Malay Language)
Study Level	Undergraduate or non-Humanities/Business graduate students
Summer Course Load	Minimum: 1 course (3 or 4 Academic Units/AUs) Maximum: 2 courses (up to 8 Academic Units/AUs)
Credit Transfer	All summer courses are credit bearing. All summer courses (including language courses) bear 3 or 4 Academic Units each and the equivalent of 39 contact hours.

APPLICATION & NOMINATION

English Proficiency	Students nominated from their home universities are deemed to be able to cope with the curriculum conducted in English at NTU. Proof of English proficiency from students is required for some of the summer courses (refer to the course description on the requirement for English proficiency). Based on our requirements, please refer to the following acceptable qualifications for English proficiency: • **General Paper of the Singapore Cambridge GCE 'A' Level Examination (sat in 2007 onwards**): A, B, C, D, E • **General Paper of the Singapore Cambridge GCE 'A' Level Examination (sat in 2006 or earlier**): A1, A2, B3, B4, C5, C6 • **IELTS:** A minimum of 6 for the Writing sub-test • **TOEFL:** A minimum of 570 (paper) or 90 (internet) or 237 (computer) • **SAT1:** A minimum of 600 for the Verbal section; or 7 for the Essay section • **IB:** A minimum of four (4) for Higher Level English or four (4) for Standard Level English • **MUET:** Band 6 and a minimum of 50 for writing • **GEPT:** High intermediate Stage 2 consisting of writing and speaking modules (applies to Taiwan universities only)
Study Exchange Spots *(for Partners' information)*	One student who completes 1 course in the Summer Programme would be considered as **0.5 spot of exchange**. Some exceptions may apply.
Auditing Courses	Students are not allowed to audit lectures.
Nomination by Partner Universities	1. Exchange coordinator(s) of partner institutions are only required to email the completed nomination form to summerNTU@ntu.edu.sg. Please indicate your mailing address in the form so as to better facilitate transcripts sending after summer ends. 2. You can include both exchange and fee-paying students in the nomination form. 3. This programme is open to all nationalities.

APPLICATION & NOMINATION

Student Online Application Process	1. Nominated / Fee-Paying students shall submit an online application through the following link: https://venus.wis.ntu.edu.sg/NG_APP/Pages/Login.aspx *[Select "summerNTU (exchange)" or "summerNTU (fee-paying)" from the drop down box in the Student Category field].* 2. Mailing of original documents is **NOT** required. **Supporting Documents Needed for Online Application** a. Latest official transcript in English (signed by the Registrar and should include the university's seal), reflecting all courses taken during the study period in your home university in <u>PDF format</u> (<600 kb) b. Clear, coloured passport-size photo in JPEG format *(<60kb; 400(W) x 514(H) pixels)* c. Clear & coloured, scanned copy of passport information page *(valid for at least 6 months from the commencement of your exchange at NTU)* in JPEG format *(<200 kb)* 3. Upon successful submission of online application, students will receive an email acknowledgement of their submission. 4. The result of your application will be made known to applicants via email by May or earlier. Successful applicants will be directed to the NTU Study Abroad Portal for registration. Students should verify that the courses stated in their Offer of Admission (available online) is correct before they accept the offer. 5. Payment of programme fees is made online via credit card on the same Study Abroad Portal.

APPLICATION & NOMINATION

Change of Courses upon Acceptance of Enrolment	Students are advised to select their summer courses very carefully before putting in their online application. They are to refer to the summer course information on our website or email to summerNTU@ntu.edu.sg for clarification prior to submitting their online application. The summer courses listed in Offer of Admission would be the final courses that you will read at NTU for the Summer Programme. **NOTE**: Please note that **NO ADD-DROP** of courses are allowed once student has accepted the online Offer of Admission.
Course Cancellation	A course may be cancelled if there are less than 10 students for the course. You will be notified by May 2019. In the event of cancellation, you will be offered other courses to consider before the commencement of the programme. If you decide not to register for other available courses, you may be granted a refund of tuition fees paid for the course being cancelled.

PROGRAMME SYLLABUS

Track 1: Language & Cultural Studies
Date: 1 Jul 2019 to 26 Jul 2019

Overview
Asia beckons. This track will introduce students to basic Malay and Chinese language skills, letting students discover the fascinating and intriguing lifestyles in Asia. Students will also explore the cultural arts of the region.

Course	Description
CF9001 Chinese Language and Cultural Studies (3 AUs)	**Part 1: Chinese Language Study (Beginners)** This course is suitable for non-native speakers who wish to gain an insight into the Chinese Language. The course contents are designed to help students accumulate Chinese vocabulary and basic conversational skills for daily usage. At the beginners level, students will learn writing skills like basic strokes, character components and single-component characters. They can also expect to learn up to 260 Chinese characters, 40 grammatical points and 30 commonly-used sentences. This course adopts an experiential learning approach that encourages students to participate in several assigned activities which will enhance their listening and conversation skills. **Part 2: Chinese Cultural Studies** The Chinese cultural studies course aims to expose students to the history and culture Overseas Chinese, arranging a mass lecture "The Chinese Communities in Southeast Asia" that includes a visit to the Chinese Heritage Centre, NTU, and also an excursion to the Peranakan Museum and Asian Civilizations Museum.
(NEW) **LM9001** Malay Language (3 AUs)	The course aims to provide students with competence in understanding and using basic Malay. In order to familiarize students with the target language, the requisite skills of listening, speaking, reading and writing will be taught, along with the rudiments of grammar. These are achieved through thematic and scenario-based learning which will equip students with the necessary vocabulary based on the prescribed themes.

PROGRAMME SYLLABUS

Track 1: Language & Cultural Studies
Date: 1 Jul 2019 to 26 Jul 2019

Structure – Chinese Language Study (Beginners)	
Topic	**Learning Objectives**
Introduction	This section introduces the Chinese phonetic system (hanyu pinyin) And the Chinese writing system, the two most fundamental knowledge in learning Chinese. Students will be given a broad overview of the systems, and learn how to apply the basic knowledge through reading and pronouncing Chinese lexical terms.
Common Greetings	Students are introduced to a list of frequently used greetings in daily life. This ranges from polite greetings in special occasions to regular greetings in daily life.
Family & Given Names	Students will learn the basic ways of asking & telling their names. Simple introduction of themselves will be taught too.
Countries and Nationalities	Students learn the basic ways of asking & telling a person's nationality and origin, as well as polite ways to ask questions and make requests.
Occupation	This section teaches the structure of asking & answering about one's occupation and the ways to affirm/negate questions & comments from others. Both formal and causal ways of saying will be taught.
Physical Appearance	This section teaches about a person's physical appearance, how to tell a person's height, weight and general appearance. Students will also be taught positive /negative question forms.
Age	Students will learn how to ask and tell a person's age for different age groups (adults, children & seniors).
Locations and Addresses	Students will learn how to ask and tell a person's location and address, as well as the distance between places.
Family and Relationships	This section teaches about family members and how students can ask and share briefly about their family. Students will also learn how to express their feelings / opinions about something.
Time and Calendar	Students will learn the basic ways of asking and telling time and dates, and the polite way of asking. Students will also learn how to tell others what to do at a certain time.
Introductory Terms	This section teaches the basic ways of introducing oneself.

PROGRAMME SYLLABUS

Track 1: Language & Cultural Studies
Date: 1 Jul 2019 to 26 Jul 2019

Structure – Chinese Cultural Studies Course	
Topic	**Learning Objectives**
The Chinese Communities in Southeast Asia	This module aims at introducing the overseas Chinese in the region, especially Singapore. It includes a tour at the Chinese Heritage Centre in NTU, where there are two exhibitions on NTU's history and overseas Chinese. A video titled "A Reflection of Our Past" will also be shown at the end of the tour, which features the early Chinese community in Singapore.

Students will also visit the Peranakan Museum (TPM) and Asian Civilizations Museum (ACM).

The term "Peranakan" generally refers to people of mixed Chinese and Malay/Indonesian heritage. TPM explores the art and culture of Peranakan communities in Southeast Asia, and possesses one of the finest and most comprehensive public collections of Peranakan objects.

At ACM, students will get to explore the rich artistic heritage of Asia, especially the ancestral cultures of Singaporeans, and the many historical connections between the cultures of Asia, and between Asia and the world. |

PROGRAMME SYLLABUS

Track 2: Entrepreneurship and Innovation
Date: 1 Jul 2019 to 26 Jul 2019

Overview	
Under the guidance of the Nanyang Technopreneurship Centre, students gain insight to what it really takes to be an entrepreneur. This track will hone students' entrepreneurship skills and competencies, sharpen their business acumen and build their stamina to grow businesses. The environment thrives with creativity as students learn from business leaders, entrepreneurs and academics.	

Course	Description
ET9131 Entrepreneurship & Marketing for New Ventures (3 AUs)	Learn about creativity, innovation and new venture creature in the field of entrepreneurship. Be also exposed to entrepreneurship marketing where you will learn how to select, develop and evaluate new products, set prices and make the most efficient use of public relations and publicity. *Course dates: 15 Jul to 26 Jul 2019*
ET9132 Entrepreneurial Accounting & Finance (3 AUs)	Learn basic accounting concepts, followed by financial concepts and tools relevant to entrepreneurs. *Course dates: 1 July – 12 July 2019*

Structure	
Lessons are conducted by business leaders, entrepreneurs, and dedicated academics with entrepreneurial experience. As part of the course, students will also be exposed to social setting where you can meet and mingle with successful entrepreneurs and working professionals in a start-up space in Singapore.	

Assessment	

- Class participation
- Team-based project
- Presentation/Examination

PROGRAMME SYLLABUS

Track 3: Creative Design and Media
Date: 1 Jul 2019 to 26 Jul 2019

Overview
Through this series, it encourages students to come up with original creative works and design. Students will be able to explore various genres and find their voice through various writing, editing, painting and new media productions.

Course	Description
AAA18E Drawing (3 AUs)	Drawing investigates the nature of drawing from the perceptual domain, using drawing as a vehicle for visual inquiry to record from observation. The course is for anyone who cannot draw but would like to learn to. At the end of the course, students will be able to draw anything they see.
(NEW) **AAA18G** Tabletop Game Design (3 AUs)	This general elective introduces foundational mechanics in modern tabletop games and students get an opportunity to apply them to create their own tabletop game, serving a variety of purposes from conceptual prototyping, entertainment, education, or simply as a form of personal expression and interactive art-making.
AAA18H Painting with Oil (3 AUs)	This course aims to highlight the beauty and processes that goes into completing a oil painting. While there is a significant emphasis on practical hands-on exercises, a great component of the course is devoted to develop the visual literacy and aesthetical appreciation of students when they view paintings and artworks in general.
AAA18K Communication Design (3 AUs)	This basic introduction to design will equip students with the ability to understand Design better. They do so from ground up, by learning basic software handling in Photoshop and Illustrator. With hands on exercises and in class sessions, its will enable students to familiarize themselves with the right tools in creating the ideal design. Sessions in Design theories and looking at successful design references, would provide a brief historical timeline on the evolution of good Design. At the end of these sessions, students are more competent to better understand the various Design software tools and know which ones are the ideal ones to be used for any design task.

PROGRAMME SYLLABUS

Track 3: Creative Design and Media
Date: 1 Jul 2019 to 26 Jul 2019

AAA18J Painting with Watercolours (3 AUs)	This course aims to highlight the beauty and ephemeral qualities of watercolor painting. Students will be progressively taught various techniques to achieve different results. There be an emphasis on hands-on practice as well as keynotes on how to appreciate the visual qualities of watercolor paintings.
AAA28D Arts Across the Borders (3 AUs)	A study focused on the discovery and understanding of the artistic heritage, psychogeography and sociocultural significances of a specific part of Singapore. "Borders" in this sense may comprise the historic, contemporary, architectural, cultural, social, political, psychic and imaginary boundaries that define everyday life in the area. A considerable part of the course will be spent doing experiential work (maps, photography, video itself). Course work will involve comprising Situationist-inspired interventions that take as starting point the ways that this particular quarter and its inhabitants perform.
AAR23C Film Studies (3 AUs)	This course aims to provide an introduction to film appreciation and analysis. As this course is offered by the English Language and Literature Academic Group, the focus of the course is on film as a construct of art and narrative, paying particular attention to aspects of film form, aesthetics and style. Due to the constraints of time, we will study primarily contemporary feature films from the year 2000. The course is divided into two parts. Part One introduces the four elements of film, namely mise-en-scene, cinematography, editing and sound that provide the basic vocabulary of film studies. Part Two studies filmic texts as visual forms of story-telling and explores the issues of representation and spectatorship.

PROGRAMME SYLLABUS

Track 3: Creative Design and Media
Date: 1 Jul 2019 to 26 Jul 2019

HA2017 Critical Perspectives on Education (3 AUs)	This course will familiarize the students with the key concepts and theories in foreign policy analysis and the complexity of factors influencing foreign policy decisions, from state and non-state actors, domestic and international structures, to the variety of models, implementation strategies, instruments, drivers and challenges affecting foreign policy choices. The course will combine the discussion of the above topics with practical exercises involving the analysis of illustrative case studies (drawing from relevant historical and contemporary examples), promoting by these means students' engagement with current debates in the field while at the same time fostering their public presentation, argumentation and critical analysis skills.
(NEW) **AED23H** Critical Perspectives in Assessment Learning (3 AUs)	The goal of this course is to acquaint students with basic and generic 'assessment literacy'. The course will be organised around five broad competencies of being 'assessment literate': • Understanding and communicating the purposes and criteria of assessment • Designing assessment appropriate for instructional decisions • Administering, scoring and interpreting the results • Planning assessment as part of an effective teaching-learning process • Recognising unethical, illegal and inappropriate assessment.
AED28B Critical Perspectives on Education (3 AUs)	This course takes a multi-disciplinary approach to the broad concerns and challenges in contemporary educational thought and practice. It introduces students to some basic concepts and key concerns in education and hopes to stimulate critical engagement with students' personal educational experiences and the important issues in educational practice. Topics that will be discussed include the history of education, contemporary beliefs about the values and purpose of education, and issues concerning curriculum and pedagogy. The course will also explore the challenges of tackling matters related to inequality and elitism through education. In the process of exploring these issues, students will reflect on what it takes to become a good teacher.

PROGRAMME SYLLABUS

Track 4: Success in the Globalised Marketplace
Date: 24 Jun 2019 to 2 Aug 2019

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Overview
To compete in today's marketplace, one has to possess many traits and skills from cultural intelligence to negotiation skills, strategic management and marketing communications. Students will have a range of business and humanities courses to choose from.

Course	Description
BU8101 Accounting: A User's Perspective (3 AUs)	This is a basic course in financial and managerial accounting meant for non-accounting and non- business students. It exposes students to the environment of accounting and its role in providing useful information for decision making by various stakeholders of business organizations. By the end of the course, students should be able to appreciate the role, scope and value of information for managing business organizations towards achieving their goals. Students will learn fundamental concepts and techniques in financial and managerial accounting, through solving business problems. In this course, students are treated to an understanding of a broad range of the underlying accounting concepts without the need to be involved in too much detail associated with the processes. Whilst non-accounting and non-business students need not have to prepare comprehensive financial statements, it would be beneficial for them to be able to understand, interpret, analyse and use them. *Course dates: 24 Jun to 2 Aug 2019*

PROGRAMME SYLLABUS

Track 4: Success in the Globalised Marketplace
Date: 24 Jun 2019 to 2 Aug 2019

BU8201 Business Finance (3 AUs)	This course provides non-business and non-accounting students with a broad understanding of the principles and practice of Business Finance/Financial Management. By the end of this course, students would have acquired sufficient finance knowledge to understand and appreciate how various financial decisions can have significant impact on the Profit/Loss and value of firms. They would also be familiar with pricing of stocks and bonds. This is a basic course in finance with emphasis on the major financial decisions made by companies and the valuation of investments made by them. The course starts by examining the various forms of businesses and the importance of interest rates. Time value of money, and the linkage between risk and return, lays the foundation for evaluating the price of bonds and stocks. Students will learn and apply principles of capital budgeting (calculating the profitability of various projects and deciding which one to proceed) and capital structure (financing approved projects by issuing shares or bonds, or using retained earnings). The course concludes with the evaluation of whether a company should use extra cash to pay dividends or repurchase its own shares. *Course dates:* *24 Jun to 2 Aug 2019*
BU8501 Marketing for the 21st Century (3 AUs)	This course is designed for students who have chosen to specialise in disciplines other than business. This course will discuss the basic principles of marketing with a focus on its practice and how this understanding could potentially enhance the students' future performance in their chosen field. A hands-on approach is expected of students and activities have been incorporated to encourage observation and enhance analytical ability. The course will require students to analyse businesses, lead discussions and present analysis and recommendations on selected organisations. *Course dates: 24 Jun to 2 Aug 2019*

Track 4: Success in the Globalised Marketplace
Date: 24 Jun 2019 to 2 Aug 2019

(NEW) **BU8502** Marketing Communications: An Integrated Approach (3 AUs)	The course is aimed at enabling students to learn in depth the development, implementation and evaluation of marketing communication (marcom) activities. The course provides students with relevant knowledge about how businesses interact or communicate with the market. In particular, because planning and executing marketing communication programs are typically the responsibilities of marketing executives, the course can help students to prepare for a job position that involves marketing communications. It can help them deepen their understanding of marketing – in particular, what marketing communications involve and how marketing communications enable an organisation to achieve its objectives. By the end of this course, you (as a student) would be able to: 1. explain the nature, role and importance of marcom activities in marketing and the society; 2. explain and distinguish the key concepts, theories and terminology in marcom management; 3. determine which marcom tools provide better choices in different situations, and integrate different tools to achieve synergy; 4. plan and develop detailed marcom strategies and programs; 5. appraise the contributions of marcom activities to marketing and communication objectives; and 6. formulate and manage marcom activities across countries. *Course dates: 1 to 26 Jul 2019*

Track 4: Success in the Globalised Marketplace
Date: 24 Jun 2019 to 2 Aug 2019

BU8542 Social Marketing: Making This World a Better Place (3 AUs)	Social marketing is the use of business marketing concepts and techniques to change behaviour for the betterment of society. The course is designed for students concerned about social issues and passionate about making a difference. It exposes students to a myriad of social problems plaguing society and acquaints them with marketing concepts, tools and strategies to effect change. Students will work in teams to develop a social marketing campaign to address a social problem. *Course dates: 1 to 26 Jul 2019*
BU8544 Marketing Health: Consumers' of Wellness (3 AUs)	The health, beauty, and wellness industry is predicted to have a strong growth in the coming years. With the disposable income and life expectancy increasing, many consumers are willing to spend considerable amount of income on seeking and keeping health and beauty. Healthy lifestyle has become a global trend with many health-conscious followers. With the growing ageing population around the world, high quality healthcare services that provides patients a pleasant experience are in great demand. This course will provide an overview of conducting marketing in three sectors of the growing health industry: 1. Consumer health and beauty products/services (e.g. healthy foods, gym membership, sports apparel, slimming treatment services); 2. Healthcare services (e.g. services in hospitals, clinics, senior-living communities, pharmacies); and 3. Health and wellness tourism (e.g. travel for medical exam, medical spa, spiritual experiences, mind-body connection). *Course dates: 1 to 26 Jul 2019*
BU8641 Cultural Intelligence: How to be an Explorer of the World (3 AUs)	Cultural Intelligence is the capability to function effectively across national, ethnic and organisational cultures. IQ and EQ are no longer enough. Culture intelligence is becoming a critical predator for success in the borderless world of the 21st century. This course will provide you with a conceptual framework for cultural intelligence, as well as a set of tools to navigate and explore the world. *Course dates: 1 to 26 Jul 2019*

Track 4: Success in the Globalised Marketplace
Date: 24 Jun 2019 to 2 Aug 2019

BU8642 Leadership in the 21st Century (3 AUs)	This course aims to facilitate the learning of theoretical knowledge and practical skills (e.g. coaching, teambuilding, goal-setting, and conduct effective meetings). This course aims to educate students on the leadership domain and unmask the essential skills a leader would require to be competent especially in the 21st century. A mixture of lectures, case studies, class activities, experiential exercises and assessment tools will be used in this course to facilitate students' understanding of the leadership domain and prepare them to embark on their leadership journey in the 21st century. *Course dates: 1 to 26 Jul 2019*
BM2506 Digital Marketing - Connecting With Customers In Today's World (4 AUs)	Digital technologies are capturing the imagination of people worldwide. Businesses, including the marketing discipline, are slow to capitalize on the potential gains afforded by these technologies. Specifically, misconceptions abound on what marketing through digital technologies, like social media, entails. This course will provide an overview of conducting marketing through digital media and explore the consequences of deploying these. Marketing will be addressed through digital media starting with fundamentals of digital marketing and strategies for its management. Issues in implementing a digital marketing initiative will be reviewed. Social media marketing will be highlighted due to its current prominence. The course will sport trends and highlight opportunities for those wishing to enter this field. Students will be provided with training and hands-on experience. *Course dates: 1 to 26 Jul 2019*

PROGRAMME SYLLABUS

Track 4: Success in the Globalised Marketplace
Date: 24 Jun 2019 to 2 Aug 2019

(NEW) **BC2406** Analytics I: Visual & Predictive Techniques **(4 AUs)**	Most organizations are data rich and information poor. The large volumes of data in an organization are "oilfields" rich in information content that are pending extraction with the right tools and models. Analytics involves the art of data exploration, visualization, communication and the science of analyzing large quantities of data in order to discover meaningful patterns and useful insights to support decision-making. The primary objective of this course is to introduce students to various techniques available to extract useful insights from the large volumes of data. At the end of the course, students will not only see the substantial opportunities that exist in real world, but also learn techniques that allow them to exploit these opportunities. This course focus on the use of open source R software, which is one of the key analytics software used in various industries and a critical skillset required in the job market for analytics and data science professionals. *Course dates: 1 to 26 Jul 2019*
AB0602 Communication Management Strategies **(4 AUs)**	This course will prepare students for written and oral communication challenges in the rapidly evolving business environment. It will help students to present themselves confidently and professionally in the way they speak, write and participate in their chosen profession. Apart from discussing strategies in relational and persuasive oral communication, special emphasis will also be placed on how written messages can be crafted and presented in a concise, structured and effective manner. Students will get opportunities to hone your presentation skills through video-taped assignments, as well as receive personalised feedback on your performance. Students will also gain from practice in crafting messages for a range of business contexts, including letters/email and longer documents like reports and proposals. The course aims to teach students about the theoretical frameworks, strategies and skills to: • Prepare and deliver impactful business presentations • Produce effective business writing and reports *Course dates: 1 to 26 Jul 2019*

Track 4: Success in the Globalised Marketplace
Date: 24 Jun 2019 to 2 Aug 2019

(NEW) **AB1601** Organisational Behaviour and Design (3 AUs)	This course aims to prepare you for the work life and develop their abilities to lead and manage people. The course helps you to understand behaviour in orgainsations; how people perceive things, what shapes their attitudes and drives their behaviour, and how to motivate them to strive for both personal and organisational goals. Only then can leaders begin to develop human capital, to influence and inspire their people to achieve organisational excellence. This course is also designed to provide a good grounded understanding of behaviour in organisations. Through the science of OB, participants will acquire the body of knowledge to develop key managerial and leadership competencies required to interact and work effectively with superiors, peers and subordinates. The design of assignments and classroom activities also aims to help you link theories to practices. *Course dates: 1 to 26 Jul 2019*
(NEW) **AB3601** Strategic Management (4 AUs)	The Strategic Management course focuses on identifying and understanding the sources of superior firm performance through a process of analyses and syntheses. This entails an understanding of theoretical concepts and frameworks that would be taught in the course. You will learn to analyse the external and internal environments of the firm, formulate and execute different types of strategies with the considerations of ethics and good corporate governance. Strategic issues are examined from the perspective of a chief executive or general manager who should focus on how s/he can formulate effective strategies and develop the necessary resources and capabilities to achieve sustainable competitive advantage in a highly volatile and competitive global environment. *Course dates: 1 to 26 Jul 2019*

PROGRAMME SYLLABUS

Track 4: Success in the Globalised Marketplace
Date: 24 Jun 2019 to 2 Aug 2019

(NEW) **CS2400** Foundation of Information Analytics (3 AUs)	Today, many organisations generate and collect unimaginable quantities of data of all types. However, merely collecting lots of data is pointless. The critical step is to analyse the data so that it can be transformed into information and action. An important tool that enables this transformation to take place is statistics. This is the subject matter of this course. Statistics will be presented in a mathematically friendly and non-threatening manner. The course emphasizes conceptual understanding and practical application of the material, and not on exact keystrokes needed to accomplish specific statistical tests. *Course dates: 1 to 26 Jul 2019*

Track 5: New Technologies, New World
Date: 1 Jul 2019 to 26 Jul 2019

Overview	
Get tech-savvy with this track; students will be able to dip into the world of 3D printing, bioprinting and their applications in the real world; with exciting courses on artificial intelligence and data mining being added recently.	
Course	**Description**
MA9030 Bioprinting: Principles and Applications (3 AUs)	This course aims to provide a general understanding of Bioprinting - a multidisciplinary technology that merges the field of cell culture, biomaterials science and mechanical engineering. This is a new manufacturing paradigm that has huge potential impact in the development of advanced biological tissue models and medical therapeutic products. The course will: • Introduce tissue engineering and scoffolds for tissue engineering. • Explain various bioprinting processes and the materials used . • Teach about cell sources and 3D cell culture techniques. Other topics covered includes computational design and simulation in bioprinting. Students will also attend a workshop on bioprinting,
MA9031 3D Printing and Additive Manufacturing (3 AUs)	This course will begin with an introduction and elaboration on the importance of 3D printing and a description of the process chain. It aims to: • Provide a general understanding of Additive Manufacturing, or 3D Printing as it is more commonly known. • Equip students with all the 3D printing systems and technologies, their pros and cons. • Cover the file format used in 3D printers. • Cover a comprehensive range of applications and case studies • Describe the benching, growth and trends of the technology

PROGRAMME SYLLABUS

Track 5: New Technologies, New World
Date: 1 Jul 2019 to 26 Jul 2019

MA9032 Standards and Laser in 3D Printing (3 AUs)	This course aims to provide a general understanding of standards and measurement sciences in 3D Printing. Laser technologies used in 3D printing will also be introduced. Students will be equipped with the fundamental knowledge needed to implement 3D printing as a manufacturing technique for functional engineering applications upon the completion of the course. The course will: • Expose students to 3D printing process and their applications in the industry. • Provide fundamental knowledge of the important elements in working with 3D printing, such as data format, process monitoring and modelling, testing and characterization. • Promote understanding of benchmarking and metrology aspect in 3D printing • Allow users to understand laser and basic optics in 3D printing
(NEW) **MA9034** Managing Complex Systems Projects (3 AUs)	This course introduces the background and challenges of managing complex systems projects. These challenges include the global shortage of qualified and capable project and program managers to meet national development needs in implementing infrastructure, industrial and defence projects. The course first looks into the fundamental differences between a complex engineered system project and a non-complex or complicated one. To deal with the challenges, the course explores the need for different mind-sets, capabilities, and a new set of theories, framework and approaches, in learning about and coping with complexity, uncertainties and emergent risks. The importance of adopting systems thinking and systems engineering approaches will be emphasized in dealing with complex emergent issues and associated problems solving approach including complexity mapping and leadership. Case studies on large engineering and infrastructural systems projects will be used to develop a deeper appreciation and understanding of the real-world challenges involved. Managing Complex Systems Projects also acknowledges the interdependency between the disciplines of systems engineering and project management.

PROGRAMME SYLLABUS

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(NEW) **CZ1003** Introduction to Computational Thinking (3 AUs)	Computational thinking (CT) is a problem solving process with the aid of computer; i.e. formulating a problem and expressing its solution in such a way that a computer can effectively carry it out. It includes a number of characteristics, such as breaking a problem into small and repetitive ordered steps, logically ordering and analyzing data and creating solutions that can be effectively implemented as algorithms running on computer. As such, computational thinking is essential not only to the Computer Science discipline, it can also be used to support problem solving across all disciplines, including math, science, engineering, business, finance and humanities. The aim of this course is hence to take students with no prior experience of thinking in a computational manner to a point where they can derive simple algorithms and code the programs to solve some basic problems in their domain of studies. In addition, the course will include topics to appreciate the internal operations of a processor, and raise awareness of the socio-ethical issues arising from the pervasiveness of computing technology. Upon the successful completion of this course, you shall be able to: 1. Describe the internal operation of a basic processor, how a program is executed by a computer and computing trends. 2. Code basic programs based on the programming language used in the course. 3. Formulate a problem and express its solution in such a way that a computer can effectively carry it out. (i.e. equip you with CT skills) 4. Apply the CT concepts on case studies/problem-based scenarios through hands-on practice of the CT processes.

PROGRAMME SYLLABUS

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(NEW) **CZ1016** Introduction to Data Science (3 AUs)	In today's era of Information, 'Data' is the new driving force, provided we know how to extract relevant 'Intelligence'. This course will start with the core principles of Data Science, and will equip you with the basic tools and techniques of data handling, exploratory data analysis, data visualization, data-based inference, and data-focussed communication. The course will also introduce you to the fundamentals of Machine Learning – prediction, classification, clustering, anomaly detection – to set the computational framework for Data Science. The goal is to motivate you to work closely with data and make data-driven decisions in your field of study. The course will also touch upon ethical issues in Data Science and motivate you to explore the cutting-edge applications related to Big Data, Neural Networks and Deep Learning. Python will be the language of choice to introduce hands-on computational techniques. By the end of this course, you (as a student) would be expected to be able to: 1. identify and define data-oriented problems and data-driven decisions in real life 2. discuss and illustrate the problems in terms of data exploration and visualization, 3. apply basic machine learning tools to extract inferential information from the data, 4. compose an engaging "data-story" to communicate the problem and the inference. *Pre-requisite: Basic Python programming*
EE8084 Cyber Security (3 AUs)	The course aims to provide students with basic appreciation and understanding of the underlying security issues and implications of the use of various networked systems and electronic devices in the modern cyber-society from a user perspective. The course will: • Provide overview of information systems and devices in a global network environment, threats to information systems and devices, security models, and concepts for secrecy, integrity and availability. • Explore other topics of security concerns

PROGRAMME SYLLABUS

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(NEW) **EE8086** Astronomy – Stars, Galaxies and Cosmology (3 AUs)	This course aims to equip students with key knowledge in modern astronomy and cosmology. Through the course, students will learn about the history of astronomy, navigating the sky, the origin and content of our solar system, and the evolution of stars and galaxies. Topics including the big bang, the geometry and structure of the universe, dark matter and dark energy will be discussed to give students an overview of current ideas in modern cosmology and for them to ponder about our place in the universe. The course will also discuss exciting astronomical discoveries in recent time. During the course, students will also have opportunities to learn practical skills in solar observation and star gazing to supplement their learning of the course (weather permitting).
(NEW) **EE4483** Artificial Intelligence and Data Mining (3 AUs)	The course aims to provide students with basic appreciation and understanding of the underlying security issues and implications of the use of various networked systems and electronic devices in the modern cyber-society from a user perspective. The course will: • Provide overview of information systems and devices in a global network environment, threats to information systems and devices, security models, and concepts for secrecy, integrity and availability. • Explore other topics of security concerns. • Evaluation of secure information systems, security requirements analysis, security management policies, security trends and emerging technologies.

PROGRAMME FEES

Students from NTU Partner Universities will receive an upfront discount of 60% off GEM Trailblazer Summer Tuition Fees.

Below is a schedule of programme fees.

Breakdown of Fees Payable	Exchange Students	Fee-paying students from partner universities	Students from non-NTU Partners
Tuition Fee (for each 3 or 4 AU course)	Waived for up to two 3 or 4 AU course	SGD 1,110 (~ USD 820)	SGD 2,850 (~ USD 2,110)
Registration Fee (one-time charge)	SGD 150 (~ USD 110)	SGD 150 (~ USD 110)	SGD 150 (~ USD 110)
Administrative Fee (one-time charge)	SGD 900 (~ USD 670)	SGD 900 (~ USD 670)	SGD 900 (~ USD 670)

Total Programme Fees

One course (3 or 4 AU each)	**SGD 1,050** (~ USD 780)	**SGD 2,160** (~ USD 1,600)	**SGD 3,900** (~ USD 2,900)
Two courses (3 or 4 AU each)	**SGD 1,050** (~ USD 780)	**SGD 3,270** (~ USD 2,420)	**SGD 6,750** (~ USD 5,000)

- Fees are charged in SGD but translated to USD for the purpose of comparison only

- On-campus accommodation for a 4-week programme is approximately SGD930 (~ USD 690).

PROGRAMME FEES INFORMATION

Fees & Other Expenses *

1. Programme fees includes tuition, registration and administrative fees only. It **does not include** airfare and airport taxes, local transportation costs, travel insurance, visas, meals, personal expenses, and on-campus accommodation costs.

2. Nominated students from NTU partner universities on exchange are only required to pay tuition fees to their home institutions. They are still required to pay NTU for registration and administrative fees.

3. Administrative fees includes the use of non-academic or non-obligatory facilities, services and functions at NTU. It also covers campus orientation, cultural & social activities, miscellaneous university fees, and mandatory Group Hospitalization and Surgical Insurance (GHSI) for international students.

4. **Programme fees must be paid within 7 days upon acceptance of the Offer of Admission from NTU.** The programme fee is payable online via credit card.

All fees quoted are exclusive of 7% Goods and Services Tax (GST).

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ON-CAMPUS ACCOMMODATION

On-Campus Accommodation	Twin-sharing On-campus housing is guaranteed for all incoming GEM Trailblazer Summer students in one of our 24 Halls of Residence in NTU. Students are required to stay on-campus programme. Roommates are allotted randomly by gender. While there are no meal plans and no fully equipped kitchen at the hall for students to cook their meals, students can purchase meals at any one of the numerous Hall of Residence canteens, convenience stores or at the food outlets located all around the NTU campus. Refer to this listing for places to eat around campus.
Accommodation Cost	<table><tr><td>**Duration of Summer Programme**</td><td>**Twin-Sharing (SGD)**</td></tr><tr><td>**6 weeks**</td><td>**$ 1,350**</td></tr><tr><td>**4 weeks**</td><td>**$ 930**</td></tr><tr><td>**2 weeks**</td><td>**$ 510**</td></tr></table>
Room Amenities	Rooms are furnished with a bed, mattress, study table, chair, wardrobe, bookshelf and soft board (to pin notes, etc). Each room is fitted with window coverings such as venetian blinds or curtains, lighting and a fan. There are phone jacks and Ethernet connections in each room. You have to bring or buy your own LAN cable for wired LAN connection in the rooms. WIFI is available at the common areas in the halls of residence. Other fittings may be provided and these vary from hall to hall. Note: Bed-linen, blankets and pillows will NOT be provided. Students have to purchase their own bed-linen, pillows and blankets when they arrive in NTU. Refer to this suggested packing list.
Suggested personal items to bring or buy	• Shower tote bucket • Toiletries • Towels, washcloths (recommended 2 sets) • Shower shoes • Single-size bed sheets/linen, blanket, pillow, pillow cases • Laundry bag, detergent • Clothes hangers and pegs • Laptop, internet Cable

NTU ACADEMIC INFORMATION

Check-in and Check-out dates at NTU's Halls of Residence	Check-in date	Check-out date
	2-week programme: 26 June / 10 July 2019	2-week programme: 13 July / 27 July 2019
	4-week programme: 26 June 2019	4-week programme: 27 July 2019
	6-week programme: 19 June 2019	6-week programme: 3 Aug 2019
Operating Hours of the Halls of Residence Administrative Office	Mondays - Thursdays: 8:30 am - 1:00 pm, 1:45 pm -5:30 pm Fridays: 8:30 am - 1:00 pm, 1:45 pm - 5:00pm Saturdays, Sundays & Public Holidays: Closed Students arriving outside of Hall Administrative office hours are advised to seek alternative accommodation on the night of their arrival until the Hall office opens in the morning.	
Period of stay for on-campus accommodation	Please note that should your arrival time fall outside of the above operating hours, you will not be able to check-in. You have to seek alternative accommodation on the night of your arrival until the Hall offices open in the morning. Period of stay in the hostel is determined by the approved period of programme as stipulated on the Letter of Enrolment and Acceptance issued by NTU.	

NTU Hall of Residence

Hall Surroundings

Hall of Residence Canteen

Twin-sharing rooms

NTU ACADEMIC INFORMATION

NTU Academic Unit System	NTU's courses are assigned credits based on the Academic Unit (AU) system. For the GEM Trailblazer Summer Programme, the number of academic units are as follows: **Track 1: Language & Cultural Studies (3 AUs per course)** **Track 2: Entrepreneurship and Innovation (3 AUs per course)** **Track 3: Creative Media and Design (3 AUs per course)** **Track 4: Success in the Globalised Marketplace (3 or 4 AUs per course)** **Track 5: New World, New Technologies (3 AUs per course)** For more information, please refer to the link.
Grading System	NTU uses the Grade Point Average (GPA) system in awarding grades. <table><tr><th>Letter-Grade</th><th>Grade Point</th></tr><tr><td>A+</td><td>5.0</td></tr><tr><td>A</td><td>5.0</td></tr><tr><td>A-</td><td>4.5</td></tr><tr><td>B+</td><td>4.0</td></tr><tr><td>B</td><td>3.5</td></tr><tr><td>B-</td><td>3.0</td></tr><tr><td>C+</td><td>2.5</td></tr><tr><td>C</td><td>2.0</td></tr><tr><td>D+</td><td>1.5</td></tr><tr><td>D</td><td>1.0</td></tr><tr><td>F</td><td>0.0</td></tr></table>
Academic Transcripts Delivery	The original copy of the GEM Trailblazer Summer student's academic transcript will be mailed directly to their Home University after the completion of the summer programme **within two (2) months from the date of release of examination results by NTU.** A scanned copy of the academic transcripts will be emailed to the Student Exchange Office of the Partner University for record.

ENTRY REQUIREMENTS

Student Pass	All international students admitted in the summer programme are required to apply for a Student's Pass, unless they have selected the 2-week programme (which has only 3 or 4 Academic Units). Instructions for applying a Student Pass will be provided in the Offer of Admission once the applicant has been successful. Upon acceptance of the offer of admission, students will be directed to apply for the In-Principle Approval (IPA) letter that will enable all international students to enter Singapore and obtain their student pass once they are in Singapore.
Entry Visa	Students registered for the 2-week programme may require an entry visa to enter Singapore. They can check against this link on Singapore's Immigration and Checkpoints Authority (ICA) for the list of countries that require an Entry Visa. If required, students should start applying at the above website at least 2-4 weeks before their arrival.

Note: To ensure that students have the required visa entry requirements, students are advised to arrange for their flights only after the approval of their student pass application.

OTHER USEFUL INFORMATION

Approximate Living Costs	The cost of living you incur will depend on your lifestyle. On average, students should budget for an estimated amount of SGD 1,000 - 1,500 per summer course for basics such as food, transportation and some personal expenses. This amount does not include personal holiday travels, entertainment and other incidentals.
Group Hospitalisation & Surgical Insurance	Falling ill or being hospitalized in Singapore can place an unexpected financial burden on international students, who are not entitled to medical subsidies that Singapore citizens enjoy. A compulsory NTU Group Hospitalization & Surgical Insurance (GHSI) cover is included in the summer programme fees for your peace of mind while studying in Singapore. Besides providing island-wide outpatient medical coverage, the GHSI allows you to obtain a Letter of Guarantee to waive the requirement to put up any monetary deposits should you be admitted to a government/restructured hospital in Singapore.
On-Campus Health Care	Medical and counselling services are available on campus to cater to your health and wellness needs. There are also clinics near campus should you feel unwell after office hours. You may refer to the Group Hospitalisation and Surgical Insurance to find out what is covered under the scheme.
Medical Declaration	It is mandatory for all incoming students to highlight any past or present medical conditions in their online application. This information is for the purpose of the student's well-being, such that relevant support may be rendered to ensure a positive immersion experience at NTU and that your living needs are met adequately.

OTHER USEFUL INFORMATION

Facilities / services available to students on campus	• Library • Wide range of sports and recreation facilities • Medical Services • Campus-wide Wi-Fi • High-speed LAN access in-room • Bank and ATMs • Hairdresser • Supermarkets • Student's Global Lounge • Restaurants, fast food chains and other food outlets around campus (click here for more information) • Canteens located at most Halls of Residence or within walking distance
Any bank on NTU campus?	Yes, there is a bank (Overseas Chinese Banking Corporation – OCBC Bank) with 24-hour ATM on campus. Students may also visit the Jurong Point Shopping Centre (www.jurongpoint.com.sg), which is located 10 minutes from NTU campus, for their banking needs.
Can I open a bank account while studying at NTU?	The local banks (including OCBC) require the student's exchange period to be at least 6 months in order to be eligible to open an account in Singapore.
Acceptable credit cards/bank cards in Singapore	• Visa • Mastercard • American Express • Diners Club • Maestro • PLUS You may withdraw cash from most ATM machines displaying the above services, as long as you have the required PIN and service enabled on your credit/debit card. You should check with your card issuing bank before you leave your home country to enquire about overseas usage in Singapore.

WITHDRAWAL POLICY

FOR EXCHANGE STUDENTS	
All Exchange Students admitted on tuition fee-waiver basis who wish to withdraw from the GEM Trailblazer Summer Programme should inform their Home University Exchange Coordinator AND the GEM Trailblazer Team, in writing, of their decision to withdraw.	
Notice of Withdrawal	**Refund Outcome**
30 days or more prior to the start of the student's GEM T summer programme	Registration and Administrative Fee will be refunded.
Less than 30 days before the start of the student's GEM T Summer programme	Only the Registration Fee will be refunded. Administrative Fees will NOT be refunded. *For Exchange coordinators – This will not count towards exchange.*
After Arrival at NTU	The Registration and Administrative Fee will NOT be refunded. Depending on when the student checks out, only the unconsumed period of accommodation (counted by 7-day weekly billing cycle) will be refunded. *For Exchange coordinators – This will count towards exchange.*

WITHDRAWAL POLICY

FOR FEE-PAYING STUDENTS	
All fee-paying students who wish to withdraw from the GEM Trailblazer Summer Programme must inform GEM Trailblazer Office in writing of their decision to withdraw.	
Notice of Withdrawal	**Refund Outcome**
Withdrawal notice received BEFORE the application deadline.	• The Tuition and Administrative fees will be refunded • The Registration Fee of S$150 will not be refunded
Withdrawal notice received AFTER the application deadline and 30 or more days months prior to the start of the student's Summer Programme.	• 50% of the Tuition and Administrative fees will be refunded • The Registration Fee of S$150 will not be refunded
Withdrawal notice received AFTER the application deadline but less than 30 days before the start of the student's Summer Programme.	No refund on the Programme Fees (Tuition Fees, Registration and Administrative Fees)

CONTACT DETAILS

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