

GEM Trailblazer Summer **Course Descriptions 2021**



Summer Tracks 2021

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



Summer Tracks 2021

Track 1 Language & Cultural Studies

This track will introduce students to basic Chinese and Malay language skills, letting students discover the fascinating and intriguing lifestyles in Asia.

Track 2 Entrepreneurship & Innovation

Offered by the Nanyang Technopreneurship Centre (NTC), this track is designed to equip students with fundamental entrepreneurship competencies, business acumen and stamina to build and grow businesses. Consisting of two courses, it will cover topics such as entrepreneurship; creativity; writing business plans; business accounting; intellectual property; marketing strategy; risk evaluation; financial projection; securing finances; and managing team members.



Track 3

Creative Design & Media

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.

Track 4

Success in the Globalised Marketplace

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 this track.


Track 5

New Technologies, New World

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.



Track 1 Language & Cultural Studies


Course	Teaching Dates	No. of Academic Units	Name of Instructor
LM9001 Malay Language	5 July to 30 July 2021	3	 Che Raenahani

Description

This 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.


The course presents an introduction to Malay language through the learning of basic.

Track 1 Language & Cultural Studies

Course	Teaching Dates	No. of Academic Units	Name of Instructor
CF9001 Chinese Language and Cultural Studies Physical Format Only	5 July to 30 July 2021	3	 Ms Zhao Hua
Description <p>The Chinese Language and Cultural Studies course is ideal for non-native speakers who are interested to pick up basic Chinese language skills as well as gain insights into the Chinese culture, focusing more on the Overseas Chinese, highlighting the uniqueness of learning about the Chinese history and culture in Singapore as compared to learning in China.</p> <p>The Chinese Language and Cultural Studies course consists of two parts:</p> <ul style="list-style-type: none">• Part 1: Chinese Language Study• Part 2: Chinese Cultural Studies <p>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.</p> <p>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.</p>			



Track 2 Entrepreneurship & Innovation

Course	Teaching Dates	No. of Academic Units	Name of Instructor
ET9131 Venturing Into Entrepreneurship	5 July to 16 July 2021	3	 Jason Ho
Description			
<p>This course aims to provide you with a fundamental understanding of the entrepreneurial process, of how entrepreneurs start and implement their business ideas and to instill in them an entrepreneurial mindset posture for the future. By immersing in activities relevant to entrepreneurship and value creation, you will discover and acquire one's entrepreneurial passion, motivation and mindset. You will be introduced to the concepts of entrepreneurship, innovation and new venture creation process. You individually and collectively as a team, will learn to generate ideas, identify opportunities and investigate whether an idea can be turned into a viable business through a feasibility analysis.</p> <p>Student will learn about creativity, innovation and new venture creature in the field of entrepreneurship. Also, 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.</p>			



Track 2 Entrepreneurship & Innovation

Course	Teaching Dates	No. of Academic Units	Name of Instructor
ET9132 New Venture Financing	19 July to 30 July 2021	3	Frankie Lee

Description


This course aims to help you to better appreciate the startup formation process, in particular, in securing proper venture financing to ringfence intellectual property intangibles, undertake product developments, talent acquisitions, market expansion and ultimately leading to a viable exit strategy for all stakeholders. You will be able to understand the entrepreneurship development from a funding / financing viewpoint. At the same time, You will gain insights on the investment perspectives from both the entrepreneurs and Venture Capital firms with respect to the funding cycles and expectations. This course will clarify key financial concepts, accounting principles and market practices that will better equip aspiring entrepreneurs to secure funding for their new ventures.

This course is suitable for those who are planning and currently involved in startup creation and would like to gain suitable skillsets on how to secure funding from different channels and sources.


Student will learn basic accounting concepts, followed by financial concepts and tools relevant to entrepreneurs.



Track 3 Creative Design & Media

Course	Teaching Dates	No. of Academic Units	Name of Instructor
AAA18J Painting with Watercolors	5 July to 30 July 2021	3	 David Chan Kian Wei
Description			
<p>This course aims to highlight the beauty and ephemeral qualities of watercolour painting. Students will be progressively taught various techniques to achieve different results. There will be an emphasis on hands-on practice as well as keynotes on how to appreciate the visual qualities of watercolour paintings. Students will first be taught basic drawing and paintings skills, after which students are encouraged to take a more experimental and gestural approach to watercolour painting.</p>			

Track 3 Creative Design & Media


Course	Teaching Dates	No. of Academic Units	Name of Instructor
(NEW!) AAA28C Digital Media and Visual Arts: Still Imaging	5 July to 30 July 2021	3	 Lee Siew Weng

Description

This studio course introduces contemporary digital photography through the experience of technical, expressive and conceptual methods of digital image making. You will be exposed to camera handling techniques, composition skills, studio photography and experimental imaging. You will acquire working methods, visual research skills and knowledge necessary for the successful implementation of meaningful and aesthetic lens-based artwork.




Track 3 Creative Design & Media

Course	Teaching Dates	No. of Academic Units	Name of Instructor
AAA28D Arts Across the Borders	5 July to 30 July 2021	3	 Nicola Choo

Description

This course focuses on the discovery and understanding of the artistic heritage, psychogeography and socio-cultural 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 (drawing, 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.

Track 3 Creative Design & Media

Course	Teaching Dates	No. of Academic Units	Name of Instructor
(NEW!) AAA28Q Interactive Art	5 July to 30 July 2021	3	 Mr Lim Shengen


Description

This course will be structured around three components – studio work, the development of technical skills, and introduction to the broad field of new media / electronic and time-based arts.

There are many types of digital and electronic art practices – with many influences. The course will cover a series of topics that have motivated media artists over the last 30 years, as well as historical roots in other “new” medias, such as photo, film, and radio. Art and design practices (whether they are visual, sonic, conceptual, formal, political, commercial) are rooted in close observation of the world. Observing the visual qualities of objects, how people behave, what something sounds like, what something feels like, what a text says, how power is articulated – whatever the focus may be, detailed attention and observation are key starting points. We will follow those observations into the digital realm to see how digital representation and distribution affect the making and reception of art, ideas, and relationships. There are no prerequisites for this course.



Track 3 Creative Design & Media

Course	Teaching Dates	No. of Academic Units	Name of Instructor
(NEW!) AAU08A Theatre Games: Engagement through Play	5 July to 30 July 2021	3	 Claire Jacqueline Sutherland


Description

This course examines a range of theatre games conventionally used in a participatory classroom to build specific skills and capabilities. Students will be introduced to theatre practitioners such as Augusto Boal, Viola Spolin, Clive Barker and Chris Johnston, who have developed theatre games for actor training as well as team-building. These theories, methods and practices will be used to engage participants in a range of reflective processes, critical dialogue and physical activities that promote stronger social-emotional learning opportunities, inter-personal and intrapersonal skills, as well as civic and social awareness through activities that enhance team-building, trust, confidence, collaboration and the extension of imagination. The principles of practice that underpin the use of theatre games will be explored and explicated in relation to non-traditional theatre contexts.

The course will equip students with the necessary facilitation and planning skills crucial for the incorporation of theatre games in the development of programmes to engage an intended audience. Students will learn how to design a short programme using theatre games, in order to work creatively within a range of community settings and expectations. They will also be required to facilitate theatre games for this purpose as part of their assessment.




Track 3 Creative Design & Media

Course	Teaching Dates	No. of Academic Units	Name of Instructor
(NEW!) AAA18K Communication Design Physical Format Only	5 July to 30 July 2021	3	 Ng Yong Yi

Description

This studio course introduces students to learn about communicating ideas and information through arrangement of visual elements in 2D through the use of space, type and image. Through new assignments every class, they will acquire basic graphic design skills and realise impactful and meaningful 2D design works.

Track 3 Creative Design & Media

Course	Teaching Dates	No. of Academic Units	Name of Instructor
AAR23C Film Studies Physical Format Only	5 July to 30 July 2021	3	 Dr. Dennis Yeo


Description

This course aims to introduce 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.



Track 3 Creative Design & Media

Course	Teaching Dates	No. of Academic Units	Name of Instructor
HA2017 Foreign Policy Analysis Physical Format Only	5 July to 30 July 2021	3	 Dr. Ana Cristina D. Alves


Description

This course will familiarize the students with the key concepts and theories in foreign policy analysis and the complexity of variables influencing foreign policy decisions at individual, domestic and International levels. The course will unpack the role of key leaders and bureaucracies in discerning enablers and constraints (domestically and internationally) and how these impact foreign policy choices but also implementation strategies, the choice of instruments, and ultimately outcomes in FP. The course will also introduce students to main academic debates around these topics and privilege practical exercises involving the analysis of illustrative case studies (drawing from relevant historical and contemporary examples). The interactive nature of the seminars will foster students critical analysis as well as argumentation and presentation skills.

The course is divided in two parts. The first part provides and historical background and overview of foreign policy analysis evolution as an autonomous field, the main theoretical perspectives (realism, liberalism and constructivism) and how FPA relates to International Relations. The second part focuses on the various factors that influence and shape decision making in foreign policy (namely actors, structures, media and public opinion, decision making models) as well as implementation strategies (instruments, economic statecraft, national security and transnational issues considerations). Each unit will include analysis and practical exercises of concrete foreign policy case studies.



Track 4 Success in the Globalised Marketplace

Course	Teaching Dates	No. of Academic Units	Name of Instructor
AB1601 Organisational Behaviour and Design	5 July to 30 July 2021	3	 Dr Daniel Siew

Description


Businesses around the world is in the midst of a revolutionary transformation. Emerging technologies that combine artificial intelligence, machine learning, cutting-edge visualization techniques, and social robots are fast revolutionising the workplaces globally. Developing a motivated workforce is a critical responsibility of managers and leaders. To do so, managers and leaders must know why and how people behave in organisations. Research in cognitive sciences, artificial intelligence and neuroscience has generated significant insights that can enrich the understanding of these workplace behaviours.

This course focuses on the processes and concepts of organisational behaviour (OB) that helps improve the attitudes, behaviours and performance of organisational members. You get to learn how you, team, and organisation could achieve organisational effectiveness. You will also learn to design processes and structures in influencing the behaviours of yourselves and others in the workplace. Within the context of a rapidly evolving world with social media, artificial intelligence, and machine learning, you will learn to apply various OB theories and concepts appropriately to real-life workplace situations.

This course adopts a flipped classroom approach, which will give you many opportunities to share your learning with others and learning with them collaboratively. The design of assignments and seminar activities also aims to help you link theories to practices.



Track 4 Success in the Globalised Marketplace


Course	Teaching Dates	No. of Academic Units	Name of Instructor
BU8542 Social Marketing: Making This World a Better Place	5 July to 30 July 2021	3	 Adjunct Associate Professor Gerard Dionicio Gonzales

Description

Social marketing is about changing behaviours for the good of society. Social marketing has successfully reduced or eliminated a myriad of social problems that have plagued many countries around the world from addictions, cruelty and discrimination to fraud, poverty and environmental degradation. This course is designed for students concerned about social problems and passionate about making a difference. You will learn how to use marketing tools and techniques to understand, analyze and evaluate social problems, and design effective interventions and solutions that will reduce or eliminate their ill effects on society.




Track 4 Success in the Globalised Marketplace

Course	Teaching Dates	No. of Academic Units	Name of Instructor
BU8641 Cultural Intelligence: How to be an Explorer of the World	5 July to 30 July 2021	3	 Dr Catherine Peyrols Wu
Description			
<p>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.</p> <p>This course is designed to equip you with a critical set of skills to work with people from different cultures. Cultural intelligence (CQ) – the ability to deal effectively with people from different cultural backgrounds (Ang & Van Dyne) – is a critical attribute in the borderless world of the 21st century. General cognitive intelligence and emotional intelligence are no longer enough to lead successful global careers. The good news is that CQ is a skill that can be developed and learnt by almost anyone through practice and constant application in intercultural situations.</p> <p>This course uses experiential learning to improve CQ through authentic intercultural experiences. These include a fieldtrip to the Singapore chapter of “Dialogue in the Dark,” working on a project with a multicultural team, and engaging in daily curiosity conversations with people in Singapore.</p>			



Track 4 Success in the Globalised Marketplace

Course	Teaching Dates	No. of Academic Units	Name of Instructor
BU8642 Leadership in the 21st Century	5 July to 30 July 2021	3	 Dr Stewart L. Arnold


Description

Leadership has always been a topic that many have been interested in from the past until the present. In the 21st century, as organizations operate in an environment that is volatile, uncertain, complex and ambiguous (VUCA), leadership skill becomes more important than ever before for global organizations to succeed. For leaders to lead a department, business unit and / or the entire organization successfully, leaders now need to develop a whole new repertoire of leadership skills.

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.



Track 4 Success in the Globalised Marketplace

Course	Teaching Dates	No. of Academic Units	Name of Instructor
CS2400 Foundation of Information Analytics	5 July to 30 July 2021	3	 Dr Lee Chu Keong


Description

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.



Track 4 Success in the Globalised Marketplace

Course	Teaching Dates	No. of Academic Units	Name of Instructor
BC2406 Analytics I: Visual & Predictive Analytics	5 July to 30 July 2021	4	 Mr Chew Chee Hua, Neumann


Description

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



Track 4 Success in the Globalised Marketplace

Course	Teaching Dates	No. of Academic Units	Name of Instructor
BM2506 Digital Marketing - Connecting with Customers In Today's World	5 July to 30 July 2021	4	 Dr Wong King Yin


Description

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 aims to provide an up-to-date overview of conducting marketing through digital technologies and explore the consequences of deploying these. You will be provided with training and hands-on experience in selected digital marketing solutions. We will discuss real cases to address marketing through digital media starting with fundamentals of digital marketing and strategies for its management. Issues in implementing a digital marketing initiative will be reviewed. Trends and opportunities in the field will also be highlighted. Business students who wish to enter to the field of marketing, and any students who wish to build their own brands through digital media should take this course. You will have hands-on training in selected digital marketing tools and be awarded industry-recognized certifications to help you get ready for your future career. You will learn how to solve real problems in digital marketing through case discussions, individual and group project.



Track 4 Success in the Globalised Marketplace

Course	Teaching Dates	No. of Academic Units	Name of Instructor
AB0602 Communication Management Strategies Physical Format Only	5 July to 30 July 2021	4	 Ms Yang Mei Ling

Description

The purpose of this course is to prepare you for the communication challenges that you are likely to meet in rapidly evolving global business environments. This course will help you to present yourself confidently and professionally in the way you speak, write and participate in your chosen profession.


The course provides a conceptual framework that guides strategy and skills. Strategy allows communicators to make intelligent choices about content, organisation, style, tone, delivery, and timing of messages. Skills are needed to craft effective written documents, give constructive feedback, and create as well as deliver persuasive business presentations.

The course is interactive and practical, and offers a variety of learning activities – case analyses, individual and group writing tasks, individual and team presentations, tutor and peer feedback, and off-the-cuff speaking.

The learning outcomes for this course are skills which are practical in nature and will enhance both your oral and written communication.



Track 4 Success in the Globalised Marketplace

Course	Teaching Dates	No. of Academic Units	Name of Instructor
AB3601 Strategic Management Physical Format Only	5 July to 30 July 2021	4	 Dr Clive Choo

Description

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.

Pre-requisite:

Organisational Behaviour / Marketing



Track 5 New Technologies, New World

Course	Teaching Dates	No. of Academic Units	Name of Instructor
(NEW!) CZ2004 Human Computer Interaction	5 July to 30 July 2021	3	 Dr Owen Noel Newton Fernando


Description

This course aims to provide an introduction to human-computer interaction, with an overarching goal of inculcating into you the habit of adopting a user-centric perspective on usability when designing, evaluating and innovating new user interfaces. More specifically, the objectives are to get you to:

- (a) appreciate and understand the significance of considering usability issues in interface development, including user requirements, measurements and various usability tests;
- (b) acquire vocabulary to frame and articulate HCI issues and considerations for different computing applications;
- (c) learn first principles in user interface design and develop basic ability to apply design considerations to both current and future interface modalities;
- (d) obtain a perspective of how HCI needs to be aligned with human thought processes and physical abilities, and
- (e) be aware of the large range of user interfaces in society today, and appreciate how HCI design is applied in various sectors of the computing industry.



Track 5 New Technologies, New World

Course	Teaching Dates	No. of Academic Units	Name of Instructor
EE4483 Artificial Intelligence and Data Mining	5 July to 30 July 2021	3	 Ms Chen Lihui

Description

The course is designed to introduce both:

1. The traditional approach to machine learning using symbolic representations and manipulations, i.e., knowledge representations and problem solving techniques, and
2. Techniques and application of machine learning techniques to data mining.

Upon completion of this course, students will be familiar with several powerful search techniques for automatically solving complex problems. Student will also have sufficient expertise in both the theory of machine learning and its application to data mining, so as to use these powerful techniques in a wide range of industrial contexts, for example, bioinformatics, electronic commerce, and finance.

Pre-requisites:

1. Background on calculus and linear algebra
2. Basics on optimization (e.g., argmin, variable, norms)
3. Students are encouraged to learn at least one programming language, e.g., Python, C / C++, etc.



Track 5 New Technologies, New World


Course	Teaching Dates	No. of Academic Units	Name of Instructor
EE8084 Cyber Security	5 July to 30 July 2021	3	Chan Chee Keong

Description

The objective of this course is 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 both user and management perspectives. Topics to be covered include 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. Other topics of security concerns will also be explored: security tools and devices, cryptology, hardware security concerns, personnel security standards and legal implications.



Track 5 New Technologies, New World

Course	Teaching Dates	No. of Academic Units	Name of Instructor
MA9030 Bioprinting: Principles and Applications	5 July to 30 July 2021	3	 Associate Professor Yeong Wai Yee


Description

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 topics covered are tissue engineering, prototyping of scaffolds, cell sources, biomaterials and applications.

The course starts with introduction to tissue engineering and scaffolds for tissue engineering. Various bioprinting processes will be explained and the materials for bioprinting will be introduced. The students will also learn about cell sources and 3D cell culture techniques. Other topics include computational design and simulation in bioprinting. The students will attend a workshop on bioprinting to be exposed to the operation of a bioprinter. There will be also a group discussion session for the students to critically analyze the research field of bioprinting from their point of view.



Track 5 New Technologies, New World

Course	Teaching Dates	No. of Academic Units	Name of Instructor
MA9031 3D Printing and Additive Manufacturing	5 July to 30 July 2021	3	 Associate Professor Yeong Wai Yee

Description

This course aims to provide a general understanding of Additive Manufacturing or 3D Printing as it is more commonly known. It starts with an introduction and the importance of 3D Printing and describes the process chain. The course will equip the students with all the 3D printing systems and technologies, their pros and cons. It will also cover the file format used in 3D printers. More importantly, a comprehensive range of applications and case studies will be covered. Finally, benchmarking, growth and trends will be described.

