

NTU-NUS/SMU/SUTD PhD Student Exchange Programme
List of NTU Courses to be offered in Semester 1 AY2025-26

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
ADM	AP7046	Design - An Asian Perspective	3	Asia is the largest of the seven continents, extending from Turkey in the west to Japan in the east, consisting of 48 countries (49 if Taiwan is included), divided into six regions, with a total population of 5.2 billion people. This represents almost 60% of the world population. Design has been an art form in Asia from the Sumerian period till today, which means that every country has a rich socio-cultural and artistic heritage which can be reflected in the design of artifacts, environment and services. Engagement with the west has transformed these unique societies, resulting in the adaptation of Western technology and style, so much so that design seems to have been 'democratised' as represented by products such as smartphones and automobiles. How can a designer engage with the cultural heritage of Asia in checking this erosion of traditional values while pursuing a lifetime in design in the contemporary world? This course presents an opportunity to discover a personal perspective, which may be expressed through a student's work, that has been illuminated by an informed study of Asia within country in that continent. Through lectures, discussions, field trips and hands-on tutorial exercises, students will investigate design as seen from an Asian perspective. This course is to be taken by graduate students under the direction of a faculty member. By the end of this course, graduate students will have an enhanced appreciation of the topic and understand how it is essential to their research and future career. The advanced knowledge they attain will further consolidate their ability to formulate effective research questions and will inform their subsequent research methodology and analysis.	Wed: 0930-1220	Graded
ADM	AP7049	Proseminar in Art, Design and Media	3	This course is designed for first-year graduate students (MA & PhD) in the School of Art, Design and Media (ADM) to introduce intellectual foundations of ADM research exploring the meaning of art and artist in a larger socio-cultural context and diverse research methods to execute scholarly researches in art, design, and media. Students will be acquainted with the major theoretical positions and reinforced the importance of theory for the study of ADM. Through readings, discussions, presentations and (peer) feedback, students will learn scholarly research processes and best practices for conducting and evaluating research with solid theoretical underpinnings and effective research methods. By the end of the semester, students will be able to generate a research prospectus linking a micro aspect of art, design and media with a macro implication in history, aesthetics, technology, culture, and society.	Thu: 1330-1620	Graded

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ADM	AP7057	Seminar in Design & Colours	3	In this seminar you will analyse and discuss the historical development of two-dimensional design and colour through the lens of Western and Chinese ink paintings. You will study works from the 15th to early 20th century, a period that marks the most significant development of art concepts and technical progress of both Western and Chinese ink painting. Through this comparative analysis you will examine the parallel developments of color theory, space structures and design concepts. This course will deepen your awareness and comprehension of art and design development across these two cultural areas.	Tue: 1430-1720	Graded
ASE	ES7001	Natural Hazards and Society	3	This course examines the natural and human dimensions of hazards such as earthquakes, tsunamis, volcanic eruptions, tropical storms, floods, landslides, soil erosion and desertification. Course work focuses on the causes of major natural hazards -- such as climate change, sea-level rise, and tectonics – as well as their spatial and temporal distribution. Moreover, students will be exposed to the assessment of risks posed to society and possibilities for sustainable adaptation.	Monday (09:30 – 12:30) LT19	
ASE	ES7005	Environmental Earth System Science	3	This course is designed to be a comprehensive introduction to the Earth and its systems, including the atmosphere, biosphere, hydrosphere, and solid Earth. The course will focus on the linkages and feedbacks between these systems, and the role of humans in the Earth system. Students will gain a basic understanding of the atmosphere, hydrosphere, solid Earth, and biosphere. They will understand the linkages and feedbacks between these systems, and be able to apply their knowledge to a variety of environmental problems and issues.	Friday (09:30 – 12:30) LT19	
ASE	ES7010	Geochemistry	4	This course is designed to introduce students the principles of chemistry related to geology (therefore, geochemistry) and their applications to understand processes taking place on and within the earth. By the end of the course, students should become familiar with the basic geochemical tools, and be able to use these tools to solve, in a quantitative manner, some geological and environmental problems, for example, measuring geological time, unraveling the continental and oceanic evolutions, and understanding the current climate change.	Monday 14:30 – 16:20 16.30 – 17:20 N.1-B2-1B [E2S2 Lab 1]	

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
ASE	ES7024	Global Change Ecology	3	The weekly arrangement for the course will be 2 h lectures and in-class problem solving + 1 h tutorials with short student presentations and literature discussions. Each week will cover a new topic or aspect of global change ecology. The main focus will be on how climate change effects ecological processes, in a wide range of different ecosystems, both terrestrial and aquatic. The effects of global change phenomena such as CO2 fertilization (e.g. effects on plant growth and interactions), N pollution (e.g. plant mineral nutrition, mycorrhizal interactions, soil nutrient availability), pollution of aquatic systems, ocean acidification, land use change (e.g. deforestation and habitat loss), and climate warming on ecological interactions both between different organisms and organisms and their environment. We end the course by looking at how multiple global change drivers can give a more realistic view of net ecosystem effects. Researchers' methods for studying ecosystem effects of global change phenomena will be considered, as well as areas in need of further study. (Biodiversity loss and invasive species will not be covered in depth as they are major components of the course Current Issues in Ecology).	Friday 09:30 – 11:20 11:30 – 12:20 N.1-B2-1B [E2S2 Lab 1]	
ASE	ES7028	Experimental Design & Analysis for Ecology	4	This course introduces you to the basic principles of experimental design and analysis of ecological experiments. It introduces you to methods and key concepts for designing and implementing experiments in both the field and laboratory. You will learn how to plan and execute an experiment, key concepts in designing experiments, and how to analyse and present your results. This course builds on the statistical skills you should have learned in undergraduate programmes and you will learn how to apply these statistical methods to real-life field and lab experiments. This courses uses R, and assumes some introductory knowledge of statistics.	Lecture: Tuesday: 14:30 – 16:20 Tutorial: Thursday: 10:30 – 12:20 LHN-TR+34	
ASE	ES7029	GIS and the Earth System	3	This course will cover the use of GIS to explore Earth systems science using multiple softwares. The course will start by introducing basic skills and workflows and move into more advanced topics. Students will complete an independent project using the skills they have learned. Students are expected to have basic scientific knowledge about the Earth and a basic introduction to programming.	Tuesday: 09.30 - 12:20 LT12	
ASE	ES7030	Natural Infrastructure for Resilient Urban Systems	3	The course comprises two parts: i) a series of lectures aiming to provide basic theoretical knowledge on urban challenges and natural infrastructure –what it is and how it benefits people; ii) practical activities aiming to consolidate this knowledge through discussions and hands-on modelling activities (see weekly schedule for details). If possible, a site visit or visit to a Government Agency in Singapore will complement the course by providing local examples of the concepts studied in class.	Thursday 14:30 - 15:20 15:30 - 17:20 N1.1-B2-1B [E2S2 Lab 1]	
ASE	ES7031	Population Genetic Theory & Its Application	3	This course will cover the principle of population genetics and its application to research projects. The course will start by introducing essential theories and proving the theories through actual data. The students will then define their own independent projects and analyzing their dataset. Students will be expected to have the essential knowledge about population genetics and learn to employ tools or carry programming to analyze population genetic data.	Friday 09:30 - 12:20 ASE Conference Room 1 (N2-01C-61)	

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CCDS	CE6190	Special Topic- Recent Advance on Visual Understanding and Generation	3		TCT-LT, Friday (6.30pm to 9.30pm)	
CCDS	CE7426	Advanced Topic in Convex Optimization	3		LT18, Monday (2.30pm-5.30pm)	
CCDS	CE7429	Computational Intelligence: Methods & Applications	3		LT7, Tuesday (10.30am-11.30am) LT12, Friday (10.30am-12.30pm)	
CCDS	CE7490	Advanced Topics in Distributed Systems	3		LT18, Tuesday (2.30pm-5.30pm)	
CEE	CV7001	Finite Element Methods	3		Tue, 6:30PM - 9:30PM	
CEE	CV7502	Aquatic Chemistry	3		Mon, 6:30PM - 9:30PM	
EEE	EE7204	Linear Systems	3	https://www.ntu.edu.sg/eee/admissions/programmes/graduate-programmes/detail/master-of-science-in-computer-control-automation#curriculum	Tuesday (6.30 pm to 9.30 pm)	Letter graded
EEE	EE7401	Probability and Random Processes	3	https://www.ntu.edu.sg/eee/admissions/programmes/graduate-programmes/detail/master-of-science-in-signal-processing#curriculum	Monday (6.30 pm to 9.30 pm)	Letter graded
EEE	EE7402	Statistical Signal Processing	3	https://www.ntu.edu.sg/eee/admissions/programmes/graduate-programmes/detail/master-of-science-in-signal-processing#curriculum	Wednesday (6.30 pm to 9.30 pm)	Letter graded
EEE	EE7604	Laser Technology	3	https://www.ntu.edu.sg/eee/admissions/programmes/graduate-programmes/detail/master-of-science-in-electronics#curriculum	Thursday (6.30 pm to 9.30 pm)	Letter graded
EEE	EE7608	Advanced Engineering of Optoelectronics	3	https://www.ntu.edu.sg/eee/admissions/programmes/graduate-programmes/detail/master-of-science-in-electronics#curriculum	Thursday (6.30 pm to 9.30 pm)	Letter graded
MAE	MA7131	Finite Element Method	3		Monday 7 PM - 9:50 PM	
MSE	MS6003	Failure Analysis of Engineering Materials (Civil & Mechanical)	1	Refer to MSE Postgraduate Courses webpage. https://www.ntu.edu.sg/mse/admissions/postgraduates/current-students/postgraduate-courses/semester-1-courses	Online course (asynchronous e-learning)	Letter graded
MSE	MS7120	Inorganic Materials	3			
MSE	MS7130	Organic Materials	3			
MSE	MS7140	Properties of Materials	2			
MSE	MS7310	Chemical Analysis of	2			
MSE	MS7320	Physical Analysis of	2			
MSE	MS7340	Crystal Chemistry of	4			
MSE	MS7420	Biomaterials	2			
MSE	MS7440	Environmental & Thermal Degradation of Polymeric Materials	2			

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MSE	MS7460	Polymer Recycling & Sustainable Polymeric Materials	2			
MSE	MS7470	Nanostructured Materials for Healthcare	2			
MSE	MS7480	Polymer Properties & Design	2			
NBS	BR7342	Theory Construction and Experimental Methods in Behavioural Research	3		Academic Calendar Nanyang Business School NTU Singapore	Letter graded
NBS	BR7348	Foundational and Advanced Topics in Regression Analysis: Applications for the Behavioral Sciences	3		Academic Calendar Nanyang Business School NTU Singapore	Letter graded
NBS	BR7344	Advanced Topics in Organisational Behaviour	3		Academic Calendar Nanyang Business School NTU Singapore	Letter graded
NBS	BR7372	Theoretical Foundations of Strategic Management	3		Academic Calendar Nanyang Business School NTU Singapore	Letter graded
NBS	BR7333	Econometrics in Information Systems	3		Academic Calendar Nanyang Business School NTU Singapore	Letter graded
NBS	BR7345	Seminar in Culture Science	3		Academic Calendar Nanyang Business School NTU Singapore	Letter graded
NBS	BR7351	Seminar in Consumer Behavior	3		Academic Calendar Nanyang Business School NTU Singapore	Letter graded
NBS	BR7373	Organization Theory	3		Academic Calendar Nanyang Business School NTU Singapore	Letter graded
NCPA	PM6138	Security Governance	3		Timetable will be released in early July	Grading

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NIE	MAE902	Language Acquisition Studies	4	This course examines theories of language acquisition (first, second, and bilingual) from psycholinguistic and sociolinguistic perspectives. A range of factors that affect the nature and route of language acquisition will be considered (e.g., age, cross-linguistic influence, linguistic environments, cognition, identity, power, etc.). A solid understanding of the nature of language acquisition is expected to provide good grounds for designing language teaching pedagogy.	Wednesday	Letter graded
NIE	MAE903	Sociolinguistic Perspectives on the Classroom	4	This course examines language in its social context, including language use in multilingual communities, social reasons for language change, language planning, pidgin languages, linguistic variation based on geography, social class, and gender, and issues in cross-cultural communication. It also considers the impact these concepts have on Singapore classrooms	Thursday	Letter graded
NIE	MAE904	Language Teaching Methodology	4	In this course, we explore the rationale and principles behind the paradigm shift in language teaching methodologies and evaluate their appropriacy for the local teaching context in Singapore. Participants will learn about the relationship between methodology and syllabus design in planning appropriate programmes for teaching the different language skills	Friday	Letter graded
NIE	MAE909	The Culture and Conventions of Academic Writing	4	In this course, we explore the linguistic and cultural conventions of academic writing, drawing on examples from postgraduate theses / dissertations, research papers, and published journal articles. Participants will learn about different traditions in the field of academic writing research, read and discuss research on the complex issues surrounding academic literacy, examine the socially-situated nature of academic discourse conventions, and be guided to critically analyse genuine academic texts to observe the discourse practices valued by the academic discourse community, for example, in terms of reviewing literature, organising arguments, supporting claims, citing sources, and projecting a credible authorial persona. In essence, the course provides a sound theoretical introduction to the field of academic writing research, offers insights into the kinds of writing that are valued at postgraduate level, and constructs a space in which participants can unpack, problematise, and question academic conventions.	Tuesday	Letter graded
NIE	MAE919	Second Language Phonology	4	The course will give students the ability to formulate informed opinions about the rules and features of L2 phonology, how they differ from L1 phonology, and whether or not there are universal patterns and processes regardless of the languages involved. Further they will be able to determine to what extent it is possible to alter ones phonology and whether this is a desirable or advisable path to follow for language learners. These outcomes will be achieved by a process of student analysis of their own speech via close phonetic transcription in IPA assisted by the use of phonetic analysis software, and further by students engaging in a process of attempting to alter their own speech habits in order to adopt a target L1 phonological feature.	Monday	Letter graded

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NIE	MAE923	Language Assessment in the Digital Age	4	This course aims to provide students with a well-rounded understanding of language assessment within the context of the digital age. A key component of this understanding includes exploring the role of emerging technologies, such as artificial intelligence (AI). Additionally, the course will focus on developing students skills in designing, developing, and evaluating language assessments that effectively incorporate digital technologies, with an emphasis on ensuring fairness and accuracy in the process. Students will also be empowered to critically evaluate current issues and trends in language assessment as they relate to the digital age. By applying this knowledge, students will be able to make informed decisions about the use of digital technologies in their future careers or studies related to language assessment. Overall, the course provides a comprehensive foundation in understanding and applying digital advancements within the field of language assessment.	Thursday	Letter graded
NIE	MAS939	Action Research in Humanities Education: Theories and Practices	4	This course is designed to provide an overview of action research in general and action research in education in particular. The theoretical underpinnings of action research will be emphasized. You will have opportunities to explore and critique a range of action research projects in different contexts and subject matters in humanities education. You will be introduced to an action research cycle and will get to plan an intervention either to improve on your teaching practice in your classroom or to mitigate an identified issue in humanities education. This course will prepare you to be reflective practitioners grounded in evidence-based research.	Tuesday	Letter graded
NIE	MAS944	Global Cities	4	The 21st century is known as the urban century as the majority of the world's population is moving to urban regions. With increasing processes of globalisation, cities are the new engines of growth for the global economy. While London, New York and Tokyo still occupy the top ranks of global cities, many cities from Global South are challenging this dominance. This course will attempt to introduce the students to the processes of urbanisation the urban ways of life and appreciate the emergence of global cities beyond the Global North. While this course will discuss the theoretical underpinning of increasing prominence of global cities, it will also include various empirical and grounded experiences of global cities around the world. Especially issues related to urban liveability, sustainability, water, housing and other urban infrastructure issues, which will help students achieve a better understanding of the contemporary urban world will be covered.	Thursday	Letter graded

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NIE	MAS947	Sociology of Education	4	This course introduces students to key perspectives and themes in the sociology of education. Sociology of education studies education as an integral part of larger social systems and institutions, often with a critical view on the ways in which education is implicated in the relations of power and inequality that traverse these systems and institutions. Theoretical perspectives covered in this course include the functionalist, the Marxist/Marxian, and various other critical perspectives hinging on social differences such as culture, power, gender, race/ethnicity. Other important themes such as neoliberal-ism/ization, globalization and inter-/trans-national mobility, curriculum, critical pedagogy and alternative education, are also examined.	Wednesday	Letter graded
NIE	MAX902	Paradigms and Practices of Assessment	4	This course seeks to provide strong fundamentals for participants to acquire a critical level of foundational assessment literacy, engage with different paradigms of knowledge, and be proficient in the application of key assessment practices. Assessment is posited as the object of study, and also as the key driver for designing the structure, pacing, and pitching of the course content. Participants are required to grapple with a range of assessment concepts, some of which are not literally nor easily reconcilable, and to distil a conceptual clarity from which they may interrogate their own assessment practice contexts.	Wednesday	Letter graded
NIE	MAX914	Assessment and Development of 21st Century Competencies	4	The 21st century is often described as a VUCA world – one that is volatile, uncertain, complex, and ambiguous. With new demands coming from the 21st workplace, it is thus imperative for educators in various educational institutions to develop students' capacities to match the needs of the students' future workplace. This thus indicates an imperative need to change the way educators craft their lessons and learning tasks so as to provide students with ample opportunities to gain authentic learning experiences and enable the transfer of relevant knowledge and skills from their classrooms to solve real world problems.	Monday	Letter graded
NIE	MAX921	Design of Assessment Systems	4	Designing an assessment system that is aligned with the curricular or programme goals is essential for the MEd (Educational Assessment) graduate. A comprehensive assessment system comprises both formative and summative aspects and this course introduces participants to the general principles of assessment system design. Participants also examine the relation between assessment and learning, and explore current relevant issues pertaining to assessment.	Monday	Letter graded
NIE	MAX922	Assessment Feedback for Improvement and Learning	4	This course seeks to provide strong fundamentals for participants to acquire critical awareness of key issues and core tenets of instructional feedback as a key assessment practice. Feedback is discoursed as integral to pedagogy and curriculum, and posited as the primary and pervasive dialogue in which learners can identify and address their learning gaps with teachers and peers. The multi-faceted dimensions and purposes of feedback practice are presented, including feedback as pedagogy and/or partnership, and feedback for performance, receptivity, and resilience.	Tuesday	Letter graded

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NIE	MAX924	Theory and Practice of Authentic Assessment	4	This course aims to provide participants with 1) conceptual clarity on authenticity 2) principles for designing quality authentic assessments that yield valid information of a learners ability; 3) a critical perspective of the role of authentic assessment within Singapores educational system.	Monday	Letter graded
NIE	MCL907	Chinese Language Curriculum Design and Instructional Materials Development	4	Language curriculum design and the development of instructional materials should cater to the differing learning needs of individuals in different regions. The Chinese language curriculum in Singapore uses a uniform set of syllabus and instructional materials for all students. Hence, during the teaching process, many teachers find that they need to adapt these to suit the varying abilities of their students.	Tuesday	Letter graded
NIE	MCL910	Chinese Language Testing and Assessment	4	Testing and assessment forms a critical component of language learning and Chinese language curriculum. It is not only closely related to the teachers pedagogy and students learning strategy, but also determines and impacts learning outcomes for both short and long terms.	Wednesday	Letter graded
NIE	MCL911	Application of Information and Communication Technologies in Teaching and Learning of Chinese Language	4	Immersing Information and Communication Technologies (ICT) into Chinese Language classroom is not just about employing digital learning materials or references to aid traditional teaching. More in-depth professional development is required to improve teachers design capacity in engendering different forms of teaching enabled or enhanced by ICT, especially communicative approaches, socio-constructivist learning, and extending language learning beyond the classroom. Moreover, in the context of globalisation in the 21st century, the usage of languages in our daily lives and work environments differs from the past centuries. It is crucial to nurture the students new literacies in utilising Chinese Language for effective communication in the cyberspace, particularly in the new media environments. We need to have a closer link to the 21st century teaching and learning with ICT, providing the natural context for the development of the new literacies.	Thursday	Letter graded

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NIE	MCT901	Curriculum: Theories and Issues	4	The field of curriculum is characterized by a vigorous debate and a plethora of compelling arguments. This introductory course invites participants to examine major issues and debates in the field of curriculum studies, and to bring these ideas to bear on curriculum developments in Singapore. The course is structured around the following fundamental questions: How do we understand curriculum and the work it does? What knowledge is of most worth and what should schools teach? How should this be taught and for what reasons? How does the curriculum reflect a society's understandings of its past as well as visions and aspirations? Participants will be introduced to historical development, socio-economic assumptions, challenges of globalization and the implications of these and other factors on curricular reforms. As participants consider various approaches to exploring these questions, these insights will also guide their study of key curriculum issues in Singapore. The latter include the purposes of education, selection and organization of knowledge, access to knowledge, and methods of delivery in an increasingly global context. These analyses will be done in relation to both theory and practice, and with references to implementation issues in schools and classrooms.	Tuesday	Letter graded
NIE	MCT902	Crafting the Curriculum	4	The process of analysis will reveal that curricula are by necessity always incomplete and imperfect—everything that is included (topic, activity, question, component, material, assessment, etc.) means that something else has been excluded. This being the case, students will suggest refinements to the curriculum they have analysed, based on their understanding of the needs. This course is an introduction to curriculum development. The underlying framework for the course is that curriculum building is a process that requires ongoing study and reflection about curriculum and the practice of teaching. Central and perennial curriculum questions explored are: What knowledge is of most value and worth? How is the learner and learning viewed? What is the role of teachers in creating and enacting curriculum? The process of analysis will reveal that curricula are by necessity always incomplete and imperfect—everything that is included (topic, activity, question, component, material, assessment, etc.) means that something else has been excluded. This being the case, students will suggest refinements to the curriculum they have analysed, based on their understanding of the needs of learners, the socio-political milieu, and the moral and ethical dimensions of schooling.	Thursday	Letter graded
NIE	MCT903	Assessment in Education and Learning: Theories, Tensions and Issues	4	Understand the central and pivotal role of assessment practices in constructing and enacting educational outcomes and experiences. Critically examine how assessment design, judgments and feedback practices construct the process and outcomes of learning. Develop an awareness of assessment as the primary mechanism for determining merit, and an important discourse for addressing social justice issues.	Wednesday	Letter graded

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NIE	MCT904	Understanding Teachers and Teaching: Theory and Practice	4	This course explores two intertwining themes: (1) Teacher as the curriculum maker, which explores from the interpretive perspective on how teachers acquire the knowledge, skills, and values in forming their identity in situated teaching practices and curriculum making. How do we understand the composition of teachers knowledge, practice, and skills in making curriculum alive? What counts as teacher quality in an era of accountability? How do teachers provide and practice leadership in curriculum making? How do teachers learn at different points in the teachers professional continuum and in different contexts? (2) Teaching as a practice, one that has been historically understood by scholars, practitioners, and policy makers from a range of theoretical perspectives. What does it mean to conceptualize teaching as a practice situated in relation to curriculum, assessment and learning? What are the many ways people have thought about teaching as a practice, and what are the consequences of those perspectives for how we understand teaching? Who can create, evaluate, and critique knowledge about teaching? The course will introduce some major frameworks that have been used to guide research, policy recommendations, and the work of teachers and teaching. We consider the issues of teaching and teachers in an international context, drawing on research from Singapore and other countries. Some of our texts and video materials we will use will give us repeated opportunities to consider education in China, France, Japan, and the U.S. While they dont constitute a central focus of the course, they will give us some chance for shared discussion that draws on multiple and sometimes conflicting descriptions and interpretations of teaching and teacher in a particular setting. Thus, we further pursue the context-related questions when we make the familiar strange in such an international perspective: In what ways is teaching an embedded practice that is shaped by the many contexts in which it is situated? How is learning to teach a process of entering a particular culture? What does it mean to work as a teacher in response to the discourses prevalent in <u>globalization, and the local culture of the students and the community?</u>	Monday	Letter graded
NIE	MCT905	Theories and Perspectives of Learning	4	This is a reflection-intensive, peer-learning course that offers opportunities for students to interpret and discuss some of the established theories and perspectives on how people learn. It will cover ideas from behaviorism, cognitivism, constructivism, and social-constructivism through key topics such as meaning-making, verbal understanding, inquiry learning, representations of knowledge, the process of knowing, situated cognition, and learning in <u>community</u>	Wednesday	Letter graded

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NIE	MCT913	Differentiating Curriculum and Teaching for Diverse Learners	4	Contemporary deliberations about the school curriculum have tended to privilege other stakeholders and marginalize students. Unless teachers are able to take seriously what students already know and believe, any innovation in curriculum or pedagogy becomes futile. All students deserve rich learning experiences. This course is designed to encourage teachers and school leaders to examine their assumptions about curriculum, teaching and learning, and to develop a critical understanding of different student learning needs in the regular classroom. Participants will gain an understanding of the reasons and assumptions underlying differentiation. Through the readings and discussion, participants will develop an appreciation of the diverse characteristics of students who learn at different pace as well as study a variety of curriculum options such as those of content and implementation of differentiated units and lessons that optimize learning for students. This course will examine ways that classrooms can effectively differentiate curriculum and teaching to address the complex challenges of meeting the diverse learning needs of students. These will include notions of culturally responsive pedagogy, and the use of technology. Participants will learn to use research-based tools to uncover students experiences and challenges with the curriculum and use curriculum design models in planning appropriate and defensible differentiated curriculum units	Tuesday	Letter graded

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NIE	MCT933	Affirming Diversity and Culture in Teaching and Learning	4	Singapores societal fabric has seen great changes within the past decade as the waves of globalization lap against our shores. In terms of demography, there has been evidence of increasing diversity over the past decade with rising non-resident population, trans-national marriages, and divorce rates. At the same time, home language patterns are also shifting. These demographic and social changes are consequently reflected within our school population. Over the past 10 years, the Ministry of Education has been acknowledging that students are coming from increasingly diverse backgrounds and emphasising the need to take into account student diversity in teaching and learning practices. Addressing student diversity is pertinent for several reasons. Firstly, it helps to narrow gaps in student achievement that may arise on the basis of student differences. Secondly, it can promote intergroup understanding that is critical to becoming engaged citizens in a democratic society. Thirdly, it enhances student psychological and emotional belonging as their identities are acknowledged and accepted. This course aims to help participants understand the different ways in which their learners are diverse, on top of learners different ways of cultural being. It engages participants in deep exploration of the complex meaning of culture and the influence of sociocultural theories on learning and teaching. Through critical reading of literature and reflection, participants are encouraged to explore reasons for how and why learner diversity and culture are acknowledged, ignored, or contested. In turn, the course compels participants to consider the implications of diversity and culture on teaching and learning as well as propose ways of incorporating learner resources into their teaching. Yet, prior to recognizing and engaging in work around learner diversity, participants will first be expected to confront their own assumptions, bias, and stereotypes so that paradigmatic shifts around groups and learners can happen. Through critical reflection and reading of social psychology theories, participants will gain understanding of group identity formation and inter-group behaviour as well as explore ways of mitigating the negative effects of inter-group behaviours.	Monday	Letter graded
NIE	MCT935	New Media and 21st Century Learning	4	This hands-on course aims to engage participants in examining the existing new media environment and provide an embodied new media experience for them. It addresses important, current issues in new media studies with in-depth discussion of popular perceptions/myths and implications to learning. Through the self-directed analysis of media content (critical media consumption) and production of media artefacts and participation in online communities (critical media prosumption), participants will gain a sense of new media culture and form their personal critique on the relationship between new media and 21st century learning for their refined practices.	Wednesday	Letter graded

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NIE	MDP901	Social and Emotional Development and Assessment	4	This course is one of the two core (required specialization) modules in the Master of Education (Developmental Psychology) programme. The course contains major and classic social and emotional development theories that are fundamental to the participants before they take on other more specialized courses in the programme. It also introduces how to assess childrens social and emotional development.	Tuesday	Letter graded
NIE	MDP902	Children Cognitive Development and Assessment	4	Childrens cognitive development is the emergence of the ability to process information, think, and understand. Understanding childrens cognitive development is essential for curriculum development, effective teaching, and good policy making.	Wednesday	Letter graded
NIE	MDP904	Motivation, Volition and Learning-in-Action	4	This course is designed to empower teachers, coaches, supervisors or parents to motivate their charges and to develop their volition to love, to will, to think and to make personal improvements so that they become happy and well-adjusted members of the community. The course examines biological-psychological research and theories related to enhancing motivation and volition in young and adult learners. It helps participants to understand why some renowned persons drive themselves to success while others seem to remain in mediocrity. Participants will engage in research practices and reflections as they relate their experiences to theories and hypotheses in daily practices based on the framework of Knowledge-Volition-Action.	Monday/Wednesday	Letter graded
NIE	MDP906	Personality and Attitude Assessment	4	This course covers the non-cognitive aspects of educational assessment. Non-cognitive attributes such as attitudes, interests, and personality are important to education for the 21st century. The course complements those of cognitive assessments, to provide the breadth of knowledge for a MEd (Educational Assessment) specialist.	Tuesday	Letter graded
NIE	MDP907	How to Nurture Creative and Happy Learners	4	It has been said that we live in the VUCA world Volatile, Uncertain, Complex, and Ambiguous. Creative individuals will cope well in the VUCA world, due to their capacity to think of original solutions to complex and challenging problems. At the same time, via incremental improvement or radical transformation of the VUCA world they live in, creative individuals can live happy, enriched and meaningful lives in society. This module infuses its participants with relevant KSAOs (Knowledge, Skills, Abilities and Others) to nurture creative and happy learners in the Singapore context. It achieves this goal by immersing participants in the theoretical and empirical research on creativity and happiness. By mastering this psychological domain of knowledge, participants will become skillful facilitators of creative and happy learners in the classroom, and thereby prepare their students for living and thriving in the VUCA world.	Tuesday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MDP909	Assessment and Development of 21st Century Competencies	4	The 21st century is often described as a VUCA world one that is volatile, uncertain, complex, and ambiguous. With new demands coming from the 21st workplace, it is thus imperative for educators in various educational institutions to develop students capacities to match the needs of the students future workplace. This thus indicates an imperative need to change the way educators craft their lessons and learning tasks so as to provide students with ample opportunities to gain authentic learning experiences and enable the transfer of relevant knowledge and skills from their classrooms to solve real world problems.	Monday	Letter graded
NIE	MDP912	Gestures in learning and development: theory, research, practice	4	In recent decades, there has been a growing interest in the role of hand gestures (e.g., pointing, creating a shape with the hands) in learning and development. This course examines the research on hand gestures across a variety of educational contexts for children and adolescents, looking at when a teachers gestures can affect learning and what students gestures are telling us. This course introduces methods of classifying gestures and provides a broad overview of how gestures can help learning. This course will help you to make sense of students gestures from an intentional, theory-based perspective and provide you with knowledge on evidence-based practices. The course is for all students who are interested in non-verbal communication, body language and learning.	Thursday	Letter graded
NIE	MEA901	Research and Issues in Art Education	4	This course examines the history of the discipline and explores various methodologies, critical theory, and resource material for art educational research. This involves techniques of scholarly and critical writing and evaluation of bibliographic sources. The intention is to assist candidates locate their own approaches to art education within the context of ideas and to understand the orientation and significance of contemporary art education theory and practice.	Monday	Letter graded
NIE	MEA903	Arts Education and Technology	4	In todays connected world, teaching and learning in the Arts classroom has changed. Through both theoretical, practical and research informed work, participants will consider the different ways technology has shaped the classroom practices in the arts today. Participants will also learn to integrate theories, technologies, learning designs and assessment modes to achieve the intended outcomes for students. This course would appeal to graduate students interested in the arts, education and technology who want to further their knowledge and skills in these areas whilst potentially widening their future career opportunities.	Thursday	Letter graded
NIE	MEC901	Child Development (0-8 years)	4	The MEC901 Course which is the first specialisation course in the MEd (EC) Program, provides the foundation for all the other specialisation courses. This course will help participants conceptualize childrens development across infancy, pre-school and primary school years (birth to 8 years) through the critical review of/reflection on various developmental theories, models, approaches and scholarly works.	Monday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MEC902	Issues and Trends in Early Childhood Education	4	This course aims is to empower participants to explore and reflect critically on key current and historical issues and trends underpinning the developments of early childhood education (ECE), and through this, to examine and discuss how ECE in the Singapore context can benefit from developments in the wider field, and yet stay relevant to its contextual demands.	Tuesday	Letter graded
NIE	MEC903	Research Investigations in Early Childhood Education	4	This course introduces students to the research design process in early childhood related topics. This course is essential in preparing students for their dissertation and MMM800 (Critical Inquiry) course which would require them to conduct a small research study within a single semester. This course provides the necessary preparation by allowing students to craft a coherent research design gathering literature, sifting through theories, identifying a focused topic and honing in on the studys purpose as well as selecting the specific research methodology for their study which is centered in the early years and commonly used in early childhood education.	Thursday	Letter graded
NIE	MEC906	Curriculum Design and Development in Early Childhood Education	4	The course explores the theoretical and practical nature of various early childhood curriculum approaches across time and context. The discussion will closely examine the wide array of paradigms with the underlying conceptions about children and education in light of a range of practical implications. In order to be able to prepare to be curriculum developer, theorizer, and advocator, the course enhances participants capacity to utilize multiple critical lens to rethinking and doing of educational complexity, equity, and diversity.	Wednesday	Letter graded
NIE	MEC909	Professionalism in Early Childhood Education	4	This course is designed to review and reflect on current understandings of professionalism in the EC field both globally and locally. It explores the twin concepts of leadership and professionalism with reference to early childhood education in the Singapore context. It also explores how leaders can create avenues for professionals to innovate, enriching optimal learning and meeting the needs of children and their families.	Wednesday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MEC910	Pedagogy in Early Childhood Education	4	This course is designed to equip early childhood educators who are in teaching and mentoring roles to effectively design the curriculum and content to instruct adult learners who are preparing to enter the early childhood workforce. It will introduce participants to adult learning theories and scaffold their skills in teaching and instructing adult learners. The course enables participants to understand what motivates adult learners and be equipped with the needed skills to create content and instructional design that is conducive for the adult learner who is teaching young children. Hence, the course leverages on the participants existing knowledge on how young children think and learn. Participants will draw information from the various courses that they have previously undertaken, (e.g. child development, curriculum, assessment, diversity, etc.) for this course on Pedagogy in ECE. This course also has a practical element, which seeks to improve the participants instructional design and delivery in the context of teaching an early childhood course to adult learners.	Friday	Letter graded
NIE	MED903	Elementary Statistics for Education	4	This course provides the MEd (Educational Assessment) graduate student with the skills and understanding of elementary statistics and their applications in the social and behavioural sciences. Basic statistical literacy is required in a critical reading of research literature and in conducting sound research. It is essential knowledge for a MEd(Educational Assessment) graduate working in the field of educational measurement and evaluation	Wednesday	Letter graded
NIE	MED905	Applied Regression Analysis	4	This course is designed to equip higher degree students as well as teachers with the basic concepts and methods of regression analysis. The course will cover how regression analysis can be applied to answering research questions, in particular, in the educational context. The students will get hands-on experience in running relevant statistical software to run regression analyses to analyze data.	Tuesday	Letter graded
NIE	MEL901	Language and Literature Education	4	Historically, literature and language have not been dichotomous terms. Literature as a concept emerged in the fourteenth century and its latin root is littera denoting a letter of the alphabet. In this sense literature was tied to literacy or, more specifically, the ability to read. It was only later that literature became connected to the concept of taste involving the ability to read particular kinds of text and the discipline emerged in distinction from fields of language and linguistics. In this course, we seek to examine historically the disciplinary schism between English language and English literature and explore socio-cultural, linguistic and textual theories advocating an integrated approach to English language teaching. In the process, we aim to problematize the dichotomies between reading and writing, literacy and literariness, the functional and the aesthetic.	Monday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MEL902	Analyzing Literature and Language	4	This course introduces participants to the study and analysis of styles in canonical and non-canonical literary texts, as well as other similarly creative texts such as advertisements, using fundamental linguistic and literary tools. It is an interdisciplinary course spanning the borders of English language and English literature, which are presently framed in the school curriculum as two subjects even though they are mutually constitutive fields of inquiry. As education expands globally and exponentially, it is imperative that both language teachers and literature teachers promote learners who are able to systematically identify and critically evaluate or appreciate the qualities of language used for particular effects in a plethora of creative texts which exist around them. Participants in this course will have opportunities to examine and describe the forms of texts, interpret their communicative functions and offer evaluations of the textual effects created, supported by language-based evidence.	Friday	Letter graded
NIE	MEL914	Teaching Oral Communication: Current Theories and Approaches	4	The aim of the course is to introduce contemporary theoretical notions and pedagogical frameworks and approaches related to teaching listening and speaking such as the metacognitive, cognitive and social processes involved in oral communication, the principles and procedures for evaluating listening and oral competence, and the incorporation of multimodal and literary texts. You will explore how to apply the ideas covered and discussed in this course in your own teaching context, which are also relevant to, and can be adapted for, the teaching of other languages in both first and second language contexts.	Thursday	Letter graded
NIE	MEL917	Teaching Grammar and Writing	4	This course introduces participants to contemporary approaches to teaching writing and contextualised functional models for teaching grammar. Participants will also develop principles and procedures for evaluating current practices in the teaching of grammar and writing.	Monday	Letter graded
NIE	MEL920	Creative Writing in the Classroom	4	Creative writing, whether in fiction or non-fiction, is part and parcel of the English language curriculum in Singapore and around the world. The course will engage teachers of English language and literature in the very processes of creative writing that they would have their own students engage in. Practical experience in, along with theoretical and research knowledge of, the craft of writing, can help teachers reflect critically on their own pedagogical approaches in the composition classroom.	Thursday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MEL921	Literature, Culture and Education	4	This course attends to the theory and practice of English education in relation to literary studies, raising questions that resist simple answers: How are the aims and objectives of English studies bound up with the processes and practices of a given culture? How are English Literature curricula and pedagogy implicated in the ideological structures of formal schooling? To what extent should traditional notions of literature education change amid the realities of globalization in the digital age? How do English curricula valorize and/or marginalize students and teachers cultural identities on the basis of language, race, ethnicity, class, gender, and sexuality? Are English teachers complicit in privileging the cultural paradigms of a western literary education? How can literature education become a vehicle of cultural and political critique? These questions will be addressed in relation to the challenges of critically performing and conforming to the Literature Education curricula in Singapore schools.	Tuesday	Letter graded
NIE	MEL922	Teaching Shakespeare	4	This is a graduate course on acquiring knowledge and understanding of as well as how to teach the works attributed to the poet and dramatist William Shakespeare and a number of his contemporaries. Students will be introduced to a representative but also canon challenging range of Shakespeare texts complemented by a range of scholarly and pedagogical texts with the goals of making teachers more informed, better readers and teachers of Shakespeare texts. Each week each Shakespeare text will be taught through the lens of a particular literary theory. Upon completion of this course, students should be able to choose appropriate texts to teach their students, as well as choosing and planning appropriate strategies for introducing local students of any level to Shakespeare. Teaching involves teacher guided but active student lead seminars, each week by a different student, culminating in a symposium concerning new ideas for teaching Shakespeare in new and inspiring ways in the local context. Students will have a range of opportunities to think critically, share and debate ideas, and pedagogical strategies, through class discussion, group work, pair work and online activities.	Friday	Letter graded
NIE	MEM902	Assessment Quality and Standards	4	The course introduces the standards of quality assessment and how to achieve these standards in practice. The concept of quality assessment is analyzed from a process perspective. The course integrates measurement theories and research findings on classroom assessment to discuss the standards of quality assessment. The summative and formative purposes of assessment are distinguished and how to achieve both purposes is discussed. The module is particularly helpful for those who are often involved in assessment practice. Participants will learn the standards of quality assessment, how to evaluate assessment practices, and how to apply various strategies to improve assessment quality in practice.	Wednesday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MEM903	Supervisory Leadership and Curriculum Design	4	The field of curriculum design and supervision is dynamic and ever-changing. For practitioners especially, it represents a challenging and creative endeavor. There are issues in supervisory leadership and curriculum design which when placed in the context of design, delivery and evaluation are contradictory, confusing, and paradoxical. Further, the discrepancies between the planned curriculum, the enacted curriculum and the experienced curriculum often create misunderstandings about the nature of the educational enterprise. This module will engage you in a personal dialogue in which you will continuously weigh alternative approaches to curriculum design and supervision and the ongoing issues that these alternatives involve. The purpose of this module is therefore to provide you, the educational leader, with an opportunity to successfully interface curriculum, supervision <u>theory and practice in educational institutions.</u>	Thursday	Letter graded
NIE	MEM910	Philosophy of Education	4	Philosophy means the love of wisdom. It is a dedicated pursuit of wisdom through a systematic inquiry into the nature and meaning of the universe and of human life. Philosophy of education is the study of key philosophical ideas that have influenced educational thought and developments in the world. Through an exploration of the views of selected philosophers and philosophies in education, this course aims to provide students with the understanding of the role that philosophy plays in educational thought and practice.	Monday	Letter graded
NIE	MEM918	Globalisation, Educational Change and Pedagogical Reform	4	This course is an introduction to the concept andsalient characteristics of globalisation, its impacts on educational policy and practice, and related issues of school change, curriculum reform and new pedagogy. It provides participants with a conceptual and analytic understanding of globalisation, an understanding and engagement with practical educational issues andproblems that face Singapore and other countries as a result of globalisation. The course discussescurriculum and policy reform strategies that are seek to respond to current and emergent conditions.	Tuesday	Letter graded
NIE	MES904	Biomechanics of Sport and Exercise	4	This course will equip students with an advanced level understanding of biomechanics. Topics covered include: kinematics, kinetics, biomechanical instrumentation, data acquisition, data processing and interpretation, and research approaches in biomechanics. Students will perform laboratory work using state-of-the-art equipment, alongside lectures and tutorials. Students will also get an opportunity on a practical problem as part of the research experience. A mix of face-to-face interactions, online learning and group work is implemented in this module. It is intended that students be guided to holistically integrate the knowledge presented throughout the module.	Thursday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MES910	Physical Activity, Nutrition & Health	4	This course will equip students with an understanding of the role of physical activity and nutrition in preventing chronic non-communicable lifestyle diseases. Issues related to measurement are covered before examining the evidence that physical activity and good nutrition can be used to prevent and treat a range of chronic lifestyle diseases. Physical activity prescription and nutritional recommendations for the prevention of each disease will be examined. The course will use a range of methods to explore the evidence including lectures, laboratory work, tutorials, online learning, group work and presentations.	Monday	Letter graded
NIE	MES917	Marketing Management in Sport and Entertainment	4	The aim of this course is to understand the principles of marketing management in sport and entertainment. Students working in the sport and health management industry or intending to pursue a career in sport and health management should take this course. In addition, this course helps students to develop their ideas in relation to marketing practices, based on the critical analysis of the existing evidence. The course helps students grasp the theoretical background to their decision-makings in the sport and entertainment marketing through the knowledge of marketing science.	Wednesday	Letter graded
NIE	MGE902	Basic Concepts and Techniques in Qualitative Data Analyses	2	This course aims to introduce participants to the methodology and methods behind qualitative research. It also aims to engage participants with fundamental notions such as the knowledge and viewpoints that frame the qualitative research paradigm and the common qualitative research methods which are often used within it. Participants will be provided with hands on opportunities to engage with the key ideas intellectually and put them into practice through mini assignments involving data analysis.	Wednesday	Letter graded
NIE	MHA901	Understanding Learners with High Ability and their Affective and Moral Needs	4	This course provides an overview to the intellectual, socio-affective and moral needs of learners with high ability. Teachers will be introduced to the historical and philosophical background and current thinking in the education of learners with high ability. The course would also look into the typical personality characteristics of highly intelligent and creative persons. Other issues related to spiritual intelligence, emotional giftedness, moral reasoning, intensities in energy levels and positive maladjustment will be explored. Discussions of motivational and volitional strengths as sources of productive behaviours; underachievement and dual exceptionalities will be featured as well to enhance the capacity of professionals in this area to make a difference in their students development and address their affective, moral, as well as cognitive needs.	Wednesday	Letter graded
NIE	MID915	Training Needs Assessment and Solutions	4	TNA is a basic process in instructional design that determines the needs of organisations prior to the development of training. It is one of the fundamental instructional design skills that students need to master.	Thursday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MID922	e-Learning Tools for Training	4	In the new information age, many traditional classroom courses or training programmes need to be re-developed and conducted online to meet the needs of adult learners who often have to balance their work demands with their work demands with their social lives. In this course, the participants will learn how to use web-based tools, e-learning authoring tools and produce videos so that they can easily develop and conduct e-learning sessions for teaching and training in practice.	Wednesday	Letter graded
NIE	MLS929	Medicinal Chemistry	4	Medicinal chemistry is a chemistry-based course and it involves the application of chemical research to the development of new pharmaceuticals. A wide range of topics will be included in the discussion of medicinal chemistry. These topics include drug targets, drug optimization, structure activity relationship studies, synthetic organic chemistry, pharmacology, as well as drug discovery and development. Novel chemical and biological techniques will be highlighted in this course and are introduced in the context of the drug development process. Interdisciplinary aspects of medicinal chemistry will be emphasized by linking other scientific disciplines, such as biochemistry and molecular biology. This course will be taught by a team of chemists with different backgrounds and participants will benefit from the diverse range of topics and ideas presented.	Wednesday	Letter graded
NIE	MLS942	Global Energy Systems	4	This is an introductory course that is designed for students to understand the global energy sources available for mankind. It provides both theoretical and practical understanding of how energy and climate policies are distribute and connected across a multitude of cases drawn from global to local arenas. This is the first course in this Master programme and is intended for those engaged with or planning a career in professional contexts relating to energy management, education, RD and marketing.	Thursday	Letter graded
NIE	MLS943	Photovoltaic Physics and Solar Cells	4	Today the traditional energy sources based on fossil fuels are depleting at an ever fast rate and will be exhausted in the next centuries. Photovoltaic solar energy becomes one of the most feasible alternative energy sources that will provides energy demand for mankind in the future. This course deals with the issues of an alternative sustainable energy source that relies on the direct conversion of sunlight into electrical energy in solar cells based on the photovoltaic effect.	Tuesday	Letter graded
NIE	MLS950	Applied Quantum Mechanics	4	Quantum mechanics is widely recognized as the basic law that governs all of nature, including all materials and devices. It has always been essential to the understanding of material properties, and as devices become smaller it is also essential for studying their behavior. This is an introductory course on quantum theory designed for students to understand the rudiments of the physics governing the atoms and molecules. There is an increasing need for professionals in clean energy to delve deeper and deeper into the laws of microscopic regime.	Wednesday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MLS963	Conservation and Management	4	In a rapidly changing world where the utilisation of resources is inextricably linked to development, the challenge of ensuring the sustainable use of natural resources has global consequences. This course will deal with issues relating to the sustainable use, protection, conservation and management of the earth's natural resources through relevant case studies. Local, regional and international initiatives, which address the issue of sustainable development and natural resource management, and the role of science in environmental management will be studied.	Thursday	Letter graded
NIE	MLS972	Advances in Ecology	4	Besides introducing the various concepts in ecology, the course focuses on the complexity and interplay of ecology at the different levels of biological organisation (e.g., individual <-> populations <-> communities). In today's highly altered environments, knowledge about ecology has immense value in real-world applications to ensure a sustainable Earth for future generations. Singaporean issues are central, but are set in a global context. For example, the construction of the EcoLink@BKE in Singapore is an attempt to address habitat fragmentation, an issue also faced by many developing countries due to deforestation and habitat degradation. Topics include population growth models, competition, niche partitioning, trophic interactions, succession, and island biogeography.	Tuesday	Letter graded
NIE	MLT901	Foundations of the Learning Sciences	4	This course considers present day discourses on learning/learning sciences in the broader context of education and how people learn. Students will deepen their understanding of constructivist learning approaches and learn to be cognizant of the vital roles of language and inquiry in human learning. Specific learning sciences topics include: * Conceptual change * Knowledge building * Cognitive apprenticeship * Learning in activity * Computer-supported collaborative learning * Learning in virtual worlds * Teacher education from the perspective of learning sciences * Design-based research	Monday	Letter graded
NIE	MLT902	Orchestrating and scaffolding knowledge building with learning analytics, artificial intelligence and collaborative technologies	4	This course is relevant to school teachers or professional educators working in organizations. Knowledge building (KB) is a future-oriented pedagogy that aims to develop learners knowledge building capacity through collaborative idea improvement in schools or organizations. It is especially critical for the development of knowledge creation societies. An important supportive socio-cognitive and technological environment is critical. Technologies such as computer-supported collaborative learning (CSCL) have been used to support knowledge building. Emerging technologies such as learning analytics and artificial intelligence are also gaining traction. In this course, you will participate as a member of a knowledge building community to explore and debate various issues related to fostering knowledge building in schools or your organizations. You will learn to craft inquiry-based learning activities, design thinking prompts to support intentional learning, facilitate social negotiation of ideas among learners and design both the face-to-face and online environments to help learners deepen their learning. You will also learn to leverage learning analytics and artificial intelligence to support learners in knowledge building.	Friday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MLT908	Design of Interactive Learning Environments	4	Topics include: * ILEs and Key findings from the Learning Sciences * Critical Perspectives on Educational Technologies * Design of Learning Environments * Orchestration * Design of Scaffolding for Learning * Design of Learning Experiences with New Media * Design of Learning with Collaborative Technologies * Design of Learning with Mobility * Educational Games * Design of Learning Spaces * Assessment of Collaborative Learning * Scaling educational innovations	Tuesday	Letter graded
NIE	MLT915	Digital Game-Based Learning	4	The course will deal with digital games and theories of play that can support digital game-based learning. Students will be exposed to different approaches to the use of digital games to support teaching and learning together with their underlying theoretical bases. They will also learn through a substantial game-based learning group project. The specific topics include: Digital games for education Theories of play for conceptualising digital games Theories of learning for conceptualising game-based learning Game-Based learning and Gamification Design for learning with digital games Students are required to spend at least 3 hours in course readings and class preparation each week.	Thursday	Letter graded
NIE	MME901	Theoretical Perspectives and Issues in Mathematics Education Research	4	This is a required specialisation course for the MEd (Mathematics) programme. It equips participants with foundational knowledge in mathematics education as preparation for specialisation elective courses in the programme. This course contributes to one of the programme objectives of providing the participants with a range of the big ideas in mathematics education theories and related research. This serves as an introductory course to induct participants into an inquiry disposition suitable to the disciplinary emphasis in mathematics education.	Wednesday	Letter graded
NIE	MME906	Curriculum Studies in Mathematics	4	This is a specialisation elective course for the MEd (Mathematics) programme. The course contributes to the following programme objectives particularly in the area of curriculum studies in mathematics: (1) develop the participants competencies in conducting educational research; (2) provide participants with the knowledge and skills related to specific ideas in mathematics education.	Monday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MME915	Geometry and the Teaching of Geometry	4	This is a specialisation elective course for the MEd (Mathematics) programme. This course contributes to the following programme objectives particularly in the area of geometry and its teaching: (1) build the participants knowledge of the mathematics subject matter; (2) develop the participants ability to relate the theoretical ideas in mathematics education to the authentic problems of practice faced by teachers in the classroom. In addition, the course also covers students misconceptions in the learning of geometry in support of another programme objective of providing participants with knowledge related to specific ideas in mathematics education.	Friday	Letter graded
NIE	MME921	Singapore Primary School Mathematics	4	This is a specialisation elective course for the MEd (Mathematics) programme. The course contributes to the following programme objectives particularly in the area of teaching primary school mathematics in Singapore: (1) provide participants with the knowledge and skills related to specific ideas in mathematics education; (2) develop the participants ability to relate the theoretical ideas in mathematics education to the authentic problems of practice faced by teachers in the classroom.	Tuesday	Letter graded
NIE	MML904	Features of the Malay Language in Singapore	4	Geographically, Singapore is in the midst of the Malay archipelago, comprising Malaysia, Indonesia and Brunei Darussalam, whose lingua franca is Malay language. However, over the years, Malay language in each country has gone through various development and changes due to its unique locality and socio-cultural experiences, and thus, developed new forms of language varieties. This course primarily highlights that these distinct features should not be perceived as imperfect uses of Bahasa Malaysia, Bahasa Melayu or Bahasa Indonesia.	Monday	Letter graded
NIE	MSC905	Science Discourse: Learning through Talk and Texts in the Classroom	4	This course aims to deepen participants understanding of the complex interplays between language, identity, and learning in general as well as gain knowledge about scientific reasoning, explanation, and argumentation for science teaching. Through theoretical exploration of key readings in the field and practical application with local data, participants will develop the basic skills to analyze classroom talk and text and relate these to issues of learning and identity. Moreover, participants will enhance knowledge-building of reasoning, explanation, and argumentation for the science classroom.	Thursday	Letter graded
NIE	MSC907	Critical Studies in Science Education	4	In this course, participants will learn about critical theory and examine issues in science education with a critical lens. They will learn about what it means to teach science with critical praxis and be a reflexive science practitioner. They will acquire the vocabulary used in critical science education research. Specifically, multiculturalism and gender issues in science education will be discussed and pedagogies that enhance student participation in science. Critical methodologies and validity issues in critical research will also be discussed. During this course, they will discuss taken-for-granted assumptions about schooling, curriculum, teaching, and learning. Then, they will apply the theories learned to design culturally relevant science activities.	Tuesday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MSE902	Human Development	4	This course examines the major dimensions of typical and atypical physical, cognitive, moral, emotional and social developments in relation to the patterns of growth, stability and change, which occur across the lifespan. The impact of biological, psychological, and social challenges on human development will be explored. An ecological perspective will be utilized to understand the individual, family, community, and society issues related to these challenges. A range of developmental learning theories will be introduced to help explain different outcomes in terms of learning, personality, behaviour, mental capacities and processes, and the influences of culture and language. Alongside the general theories of human development, disability will be introduced through a life course approach to offer an alternative framework for thinking about disability as it affects people of all generations and at all points of life course transition. This perspective is important, because it highlights how disabling societies and practices affect the population under consideration i.e. children, young people and adults, helping us to understand life course transitions in a collective way, and how this shapes our understanding of disability in the social world. Participants will be encouraged to link theoretical perspectives and empirical studies with their roles as educators in order to help them develop the necessary understanding and skills to assist others in navigating lives present and future challenges.	Tuesday	Letter graded
NIE	MSE913	Curriculum Design and Development	4	This course introduces curriculum design and development models and practices pertinent to the field of special education. Students will demonstrate the why, what and how of curriculum design and development. Effective teaching and learning requires a renewed focus on the unique needs of individual learners and an understanding of differentiated curricula and pedagogies to meet the needs of these learners. This course aims to offer the knowledge and skills to develop appropriate curricula and instructional approaches to accommodate learners with diverse needs ranging from those with high support needs to those who are gifted and talented.	Monday	Letter graded
NIE	MSE914	Evidence-based Practices in Special Education	4	This course provides an in-depth view of evidence-based practices in the field of special education. Participants will review the evidence-based practices across various domains (e.g., academic, behavioural, social emotional) in special education. Participants will also be introduced to the single-case research designs that are commonly used to evaluate the effectiveness of interventions with individuals with disabilities. Participants will be equipped to understand journal articles that examined intervention effectiveness in special education, and learn to translate this knowledge to impact their support of individuals with disabilities.	Tuesday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MSE915	Assessment of Children and Youth with Special Needs	4	The increased identification of children with special needs entails a more nuanced approach towards educational programming. The diverse profile that students with special needs requires a detailed assessment of their individual strengths and needs. This course offers an introduction to assessment and testing of children with special needs. It combines the introduction of the theories and concepts in assessment, with evidence-based practices when assessing children. Participants in this course will have direct experiences with screening, standardized, criterion-referenced, and behavioral assessment. Through these experiences, they will link the theories and concepts in measurement and child development with the practical guidelines, procedures, and applications.	Wednesday	Letter graded
NIE	MSL906	Education at the Intersection of Artificial Intelligence and Neuroscience	4	The human brain is the best example of intelligence known, with unsurpassed ability for complex, real-time interaction with a dynamic world. At the same time, developments in AI are yielding benefits for neuroscientific research. Patterns identified from neural networks can illuminate computations enacted by the biological brain, functioning both as a model for developing and testing ideas about how the brain performs computations. Conversely, brain-activity recordings can be fed to an artificial neural network and tasked with learning how to reproduce the data, functioning as a tool for processing complex data sets that the Science of Learning research field is generating. This course will explore cycles of mutual reinforcement between neuroscientific data and artificial neural networks to obtain further insights into how computation works in the brain, and how machines that can take on more human-like intelligence to advance understanding for how a learner develops. Specifically, the course will focus on unexplored spaces at the intersections of neural AI, symbolic AI, brain science and cognitive science. Takeaways include implications for education and how cutting edge teaching and learning methodologies harnessed from AI and SoL fields may be developed.	Thursday	Letter graded
NIE	MSM902	Selected Topics in Mathematics	3	This course aims to expose you to some selected contemporary topics in mathematics.	Thursday	Letter graded
NIE	MSM904	Analysis	4	This course in real analysis aims to introduce you to the order-theoretic, algebraic and geometrical structures of the real line, and the relationships between them. In particular, you will be introduced to the concepts of sequences and convergence first, for real number sequences, and next, for sequences of real-valued functions. This course is intended for educators, especially secondary and post-secondary school teachers, to help them gain an in-depth understanding of some topics in school mathematics such as limits of sequences, continuous functions such as polynomials, exponential function, trigonometric functions, the link between differential and integral calculi, through the lens of real analysis. This course will provide the foundation for students who reads analysis at the postgraduate level.	Friday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MSM905	Data Science	4	This course is designed to introduce you the basics of data science methodology and let you be able to apply such methodology to real problems. This course is intended for educators, to empower them to perform data visualization, data preparation and prediction tasks. This course will also lay a foundation for students who plan to pursue a PhD in areas related to data science/statistics.	Wednesday	Letter graded
NIE	MSM907	Geometry	4	Geometry is one of the foundational topics in mathematics. This course presents a complete axiomatic system for Euclidean geometry and related geometry topics. By completing this course, you will gain a clear picture of the whole hierarchical structure of geometry. You will learn the rigorous definitions of the fundamental geometry concepts, such as angles, triangles, rays, congruent/similar triangles. You will also learn the formal proofs of the fundamental results in geometry, such as the equivalence of various different triangle congruency (similarity) tests, Angle Sum Theorem and Exterior Angle Theorem as well as the Midpoint theorem. The course will also cover some advanced topics in geometry such as the non-Euclidean geometries, projective geometry or differential geometry. These advanced topics will widen and deepen students' knowledge in geometry and help those who want to pursue higher degree study.	Tuesday	Letter graded
NIE	MSM972	Advanced Topics in Algebra	4	This course aims to expose students who are strong in mathematics to some advanced topics in algebra.	Wednesday	Letter graded
NIE	MTC903	Assessment for Learning: Theory and Practice	4	Assessment for Learning (AfL) is referred to ubiquitously in Singaporean classrooms, but its meanings, implications and applications in schools and wider workplace learning contexts are less clear. This course first examines the discourse of AfL and formative assessment, against its varied and different theoretical constructions from Anglophone countries (e.g. USA and UK), before examining regional case studies from more recent times. This course also aims to equip participants with an understanding of the effects of assessment design and practice on participants' learning in a curriculum, and how choice of assessment methods, assessment task design, classroom formative assessment and feedback practice may be situated for reiterative (constructive) alignment of assessment, curriculum and pedagogy. Participants will learn and apply assessment for learning pedagogies to revise/develop an assessment design in a complete unit lesson plan in ways that ultimately enhance their students' construction of learning.	Monday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTC904	Facilitating Learning in the Digital Age	4	With the advent of the digital age, the profile of the learners in the education system has changed dramatically. It is, therefore, imperative that educators evaluate their instructional strategies for designing learning and adapt existing practices to better meet the learning needs and preferences of the digital generation. This is to empower them to handle the complex challenges of a highly globalised and digitised world. Rethinking pedagogy for the 21st century is as crucial as identifying the new competencies that today's learners need to develop in this digital age. This course explores the pedagogies, learning environments, theories, perspectives and considerations on the use of various digital media technologies to develop 21st century competencies and skills in the learners.	Tuesday	Letter graded
NIE	MTCL901	Language Code: Theory and Practice	4	As Chinese characters are ideographic in nature, the phonetic functions are weak. Furthermore, the structure of Chinese characters are complex and difficult to recognize, to read as well as to write. Therefore, phonetic system, Hanyu Pinyin was developed to aid in learning Chinese. Chinese characters and Chinese phonics operates with two different set of rules. Chinese characters represent single syllables while Hanyu Pinyin operates with a set of standard basic rules in relation to different forms of Chinese words. As instructors of TCIL, it is important to understand the characteristics of these two codes in order to effectively teach Chinese as an international language.	Monday/Tuesday	Letter graded
NIE	MTCL902	Vocabulary and Grammar: Theory and Practice	4	The fundamental purpose of learning any language is for communication purpose. Be it in spoken or written communication, vocabulary and grammar are two of the most important components in any language learning, as they play a vital role in building up language proficiency. In teaching Chinese as an international language, instructors must understand the grammatical rules and its effect on vocabulary on the target language to bring about effective teaching. Hence, this course will lay a good foundation in Chinese vocabulary and grammar basics, so as to effectively teach Chinese as an international language.	Thursday	Letter graded
NIE	MTCL903	Chinese-English Contrastive Analysis & Its Application	4	The use of translation in learning a foreign language is widely used as a teaching and learning strategy to help students remember, comprehend and acquire the use of the target language. The influence of the learners first language, however, will have substantial impact in the language acquisition process. Hence understanding the major difference between Chinese-English through contrastive analysis in theories and practice of translation and its application in TCIL is necessary to equip TCIL instructor with the fundamental understanding to implement the bilingual model in TCIL.	Thursday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTCL904	Teaching of Listening & Speaking Skills in TCIL	4	Listening and speaking are two important skills required in any language learning. They are complex skills that need to be developed consciously. In any interaction, comprehending the language used is necessary for effective communication. Hence, as instructors for TCIL, it is important to acquire the various communicative language teaching pedagogical approaches in order to teach effective communication skills. Besides acquiring pedagogical approaches in teaching non-native learners, keeping abreast with recent developments and research on the teaching of Chinese language listening and speaking content and skills are also essential to build the competencies to effectively TCIL to the 21st century learners.	Wednesday	Letter graded
NIE	MTCL905	Teaching of Reading And Writing Skills In TCIL	4	Reading and writing are two important literacy skills one requires to function effectively in everyday life. These two skills are interconnected and can be developed together. With global economies and emerging new technologies, new literacies are already becoming part of the educational landscape. Hence, as instructors for TCIL, it is important to understand the various teaching pedagogical approaches to engage learners of this new age. Besides acquiring pedagogical approaches in teaching non-native learners, keeping abreast with recent developments and research on the teaching of Chinese language reading and writing content and skills are also essential to build the competencies to effectively TCIL to the 21st century learners.	Wednesday	Letter graded
NIE	MTCL906	Application of Information Technology in TCIL	4	In today's 21st century education, the use of ICT for teaching and learning had infiltrated schools at a rapid pace. To ensure that today's digital learners are future-ready for the workforce of tomorrow, educators must understand and embrace the need to employ the use of ICT to create a 21st century learning environment. A 21st century educator must be competent to use technology with ease in teaching and learning, be it in the classroom or out of classroom where learning takes place anytime, anywhere. Hence, as TCIL instructors, it is important to understand the application of technological tools with content and pedagogical approaches, and appreciate how ICT can create an effective learning environment for TCIL.	Wednesday	Letter graded
NIE	MTCL907	Language Testing & Assessment in TCIL	4	Testing and assessment is an integral part of the learning process, and must be closely aligned with curricular objectives, content and pedagogy. It serves as the central function of getting the best possible evidence on what the students have learned. Teachers and students can then use this information to decide what to do next in the teaching and learning process. It is important that TCIL instructors be equipped with the necessary assessment competencies, so that quality teaching and learning can be achieved in all TCIL classrooms, bearing in mind the varied language backgrounds and proficiency levels of TCIL learners.	Thursday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTCL908	Analysis & Development of Instructional Materials for TCIL	4	Over the last three decades, there are many TCIL curriculums and instructional materials developed for non-native learners globally. However, TCIL instructors find it challenging to identify proper instructional materials for learners of differing abilities. This course aims to enhance the knowledge and skills of TCIL instructors in analysing the instructional materials developed by different editors and publishers. In addition, through better understanding of principles of the curriculum design and instructional materials development for TCIL, instructors will be well equipped in developing instructional materials for different learners.	Tuesday/Wednesday	Letter graded
NIE	MTCL909	Global Chinese and Contemporary China	4	The rapid rise of China as a global economy has driven an increase to the educational and pragmatic value of learning Chinese language globally. Understanding the history and development of Chinas rise and economic globalization is essential to TCIL instructors as they thread beyond the grounds of China in TCIL to non-native learners.	Friday	Letter graded
NIE	MTCL911	Professional English for TCIL Instructors	4	All teachers need to possess skills that enable them to communicate effectively with a range of stakeholders in the educational settings. Being able to apply these skills in a second language is all the more critical for Chinese language teachers who will need to fulfill school related tasks and communicate with other members of staff, students and their parents in the English medium. This course helps to prepare participants who will be working in international settings as they <u>move through their careers.</u>	Tuesday	Letter graded
NIE	MTCL912	Early Childhood Education in TCIL: Theory and Practice	4	Early childhood education is crucial as it has direct impact on the development of learning skills, social and emotional abilities of a child. It is during the early childhood years that we should accentuate the development of language, speech and literacy, as it will significantly enhance the childs learning in the later years. Educators should leverage on the varied learning styles and characteristics of early childhood learners, from infancy to the age of eight, apply corresponding learning theories into practice, to bring about effective teaching and learning of Chinese as an international language.	Monday	Letter graded
NIE	MTCL913	Chinese Language Education for International Schools	4	According to the study by International School Consultancy Research (2017), there is a rapid surge in the growth of international schools globally. With a growth in expatriate families and an increase in enrolment within the schools host country, the increasing trend is expected to continue in the next ten years. This growing demand corresponds to the need to develop professionally-trained Chinese language educators for International schools. Language offerings in international schools are unique and vary over different school programme. However, each aims to provide students with an edge in this competitive and ever-changing world. Hence, this course will broaden participants knowledge of teaching Chinese language in international school settings and provides constructive career development opportunities to participants.	Monday/Friday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTD907	Training Needs Assessment and Solutions	4	Training needs analysis (TNA) is a basic process in instructional design that determines the needs of organizations prior to the development of training. It is one of the fundamental instructional design skills that students need to master. Given a performance problem, students should be able to conceptualize a training needs assessment by appropriately applying goal analysis, performance analysis, learner analysis, needs and wants analysis, task analysis, contextual analysis, and feasibility analysis.	Thursday	Letter graded
NIE	MTD909	E-learning tools for Training	4	In the new information age, many traditional classroom courses or training programs need to be re-developed and conducted online to meet the needs of adult learners who often have to balance their work demands with their social lives. In this course, the participants will learn how to use web-based tools, e-learning authoring tools and produce videos so that they can easily develop and conduct e-learning sessions for teaching and training in practice. Through readings, online learning, discussions, and hands-on activities, participants will be able to: * Compare the pros and cons of various web-based tools for training * Compare the pros and cons of various e-learning authoring tools; * Design and develop e-learning lessons by using appropriate tools. * Identify key features of a learning management system and to use a web-based LMS * Apply techniques in digital video production from pre-production, production to post-production to produce an interview video and a training video	Wednesday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTD913	Teaching and Learning in Higher Education	4	The Teaching and Learning in Higher Education (TLHE) course aims to provide a structured environment for early career faculty, within which they can develop their practical skills and understanding of teaching in higher education. This course begins by exploring learning theories, course design, evidence-based teaching approaches, assessment, and communication with students within the context of their own teaching. Then, learners are provided with opportunities to sharpen their understanding by putting theory into practice. Through this course, they will have opportunities to develop their confidence in the teaching practice through reflection and participation in a community of practice, and as a result, develop a critical mindset that will continue to challenge the way they teach. Content Topics: Teaching in specific higher education contexts, e.g. NTU, Poly, etc. Learning theories Teaching in your discipline Course design Constructive alignment Assessment Designing learning activities Planning a lesson Facilitating Learning Evaluating your teaching Increasing your impact in teaching Showcasing your teaching Blended learning	Friday	Letter graded
NIE	MTD914	Facilitate teaching and learning with technology	1	Integrating technology to facilitate teaching and learning in Higher Education is a complex endeavour that requires careful consideration of technology and pedagogy. Using the technological pedagogical content knowledge (TPACK) framework, the course will discuss the types of knowledge that educators/ trainers needed in order to enhance learning with technology. It will engage educators/ trainers to review their lessons and facilitate the re-design of lessons through the TPACK framework. At the end of the course, the participants will be able to draw from various sources of knowledge to create technology integrated lesson.	Wednesday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTL905	Introduction to Tamil History & Culture of Tamil	4	The module aims to involve teachers in an in-depth study of selected topics in Tamil history and culture such as Ancient Sangam literature. The module will further elaborate on the emergence of ethical literature as well. The topics that will be covered include Traditional Kingdoms, changes in Tamil culture, the effects of social and political changes due to the influence of the various religions, the changes in primary and secondary role of women in Tamil Nadu, the educational equality and the influence of historical and social changes in Tamil culture. The importance and emergence of epic, minor and modern literature will be covered as well. The evolution of Tamil language and grammar through the different periods will be taught. Understand the code mixing of Tamil language through the various periods of time.	Monday	Letter graded
NIE	MTL906	Assessment for Tamil Language	4	This module aims to widen students knowledge on Assessment theories and concepts. In specific, the module will focus on Holistic, Formative and Summative Assessment, its impact. This module will also elaborate on the place of Second Language Assessment in Tamil Language Education in Singapore. The aspects of effective assessment will also be covered in the module. This module will look into the assessment of the various language skills and the emphasis of these skills in teaching and learning. The module will also include the assessment theories introduced newly and the rationales of these suggestions. Uniformity in assessment is also a key concept that will be covered in the module.	Thursday	Letter graded
NIE	MUE902	Philosophy of Music Education	4	This course centres on the philosophical foundations of music education. In particular, it seeks to address the big questions that confront contemporary music education. Course readings range from ancient to living scholars and philosophers, and cut across cultural borders in its inclusion of Asian and comparative philosophical writings. (a) Philosophy of music education in the ancient world (b) Utilitarian philosophy of music education (c) Aesthetic philosophy of music education (d) Praxial philosophy of music education (e) Music education through postmodern lenses (f) Asian philosophies of music education and comparative approaches	Tuesday	Letter graded
NIE	MUE904	Studies in Musical Behaviours	4	This course involves a study of musical practices around the world with special emphasis on interdisciplinary perspectives such as philosophy, music education, analysis and sociology. An important corollary will be the ramifications for the teaching and learning of the various musical traditions. i) Deconstruction of Music/al and Behaviour ii) Music as human-constituted activity; aspects of disciplinarity iii) Music and discourses of behaviour iv) Means, methods, media/tion/Systemic and Systematic practices v) Cap/abilities in Music-making vi) Consequences involving music and behaviour vii) What does musical behaviour mean? viii) Musical practices - exemplars ix) Seminar Presentations	Thursday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	SA830	Writing and Communication Skills for PhD Students	3	This course aims to improve the academic writing and oral communication skills of PhD students. Participants will learn about the concept of an academic discourse community, learn to negotiate the expectations of this community, consider the discourse practices and linguistic conventions of academic writing and academic presentations in their own disciplines, and come to understand the thinking processes underlying those practices and conventions. A range of topics will be explored in the course, including writing different sections of a thesis/research paper (introduction, literature review, methodology, findings and discussion, conclusion, and abstract); conceptualising research writing as argument; avoiding plagiarism; using language and visual resources for effective communication; preparing for PhD confirmation seminars and oral examinations; presenting research at academic conferences; and understanding the Three-Minute Thesis (3MT) genre. In order for students to benefit most from this course, it is recommended that they enrol after having completed at least the first semester of their PhD candidature.	Thursday/Friday	Pass/Fail Grade
NIE	SC830	Bioactive Natural Products and Their Derivatives	3	The main rationale for introducing this course to highlight the importance of natural products as an important source for drug discovery and development. Various aspects of natural products, including the chemistry and its biosynthesis, will be emphasized. The emergence of multi-drug resistant strains of pathogenic bacteria as well as drug resistant cancer forms underscore the importance of natural products as therapeutic agents.	Thursday	Letter graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
RSIS	AS6035	Dialogue: Interreligious Encounters & Peacebuilding	3	This course provides a critical understanding of the nature of Interreligious Dialogue (IRD) and its place within wider Dialogue Studies debates. Students will be introduced to the history and development of IRD in a global context, with a particular focus on the recent past, and changes and developments within its practice, especially in the post 9/11 period. The course will address the global literature on IRD but emphasise Asian contexts and examples to elucidate issues where this is useful and informative. The course will include study of a number of key theorists from both secular dialogue theory, such as David Bohm, Jürgen Habermas, and Hans-Georg Gadamer, as well as (particularly Asian) religious theorists such as Fettullah Gülen and Daisaku Ikeda. It will also combine theoretical rigor with practice, with students both witnessing dialogue as well as being asked to participate in dialogue sessions in class to experience it in action. This will help elucidate the way that theory and praxis in Dialogue Studies are seen as intimately linked and the fact that theorists mostly tend to stress forms of practice rather than simply abstract reasoning as key to understanding dialogue. The course is divided into three parts: the first (praxis) addressing theoretical and practical approaches to understanding IRD and the way it is understood and practiced. This will include issues such as theories, ethics, and facilitation. The second (piety) will use the well known fourfold typology of dialogue (theological-spiritual-action-life) to look at a range of forms and encounters in interreligious contexts, including Scriptural Reasoning and interfaith marriage, and will examine the place of women in IRD. The third (peace) will turn specifically to the issue of interreligious dialogue and its employment in areas such as social cohesion and peace building. The nexus of the multifaith peace movement and IRD will be explored, with studies looking at the way dialogue can play a role in promoting social peace and harmony, as well as the implications of governmental involvement and how this may shape dialogue and its aims and ends. The Interfaith Youth Movement will also be explored with its focus on action.	Trimester 2 10 Nov 2025 - 20 Feb 2026 Every Tuesday 2pm - 5pm	Graded

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
RSIS	IR6025	Global Governance	3	Global governance is a form of government on a planetary scale that is either very old or very new. Across time, it might retrospectively refer to the federation of sovereign nation-states under a centralized, world government, or a federation of kingdoms under a common supranational religion. Since the late 1990s, the term has referred to a process of cooperative leadership that brings together national governments, intergovernmental organizations, and civil society to achieve commonly accepted goals. It provides strategic direction and then marshals collective energies to address global challenges. This is the International Monetary Fund's definition biased in favour of attributing a consultative process. In reality, global governance is a series of political contestations between states, non-state actors and intergovernmental organizations over the nature of democracy, development, the environment, communications, culture, and above all the meaning of sustainable humane society on a planet faced with permeable geographical and social borders.	Trimester 2 10 Nov 2025 - 20 Feb 2026 Every Wednesday 6.30pm - 9.30pm	Graded
SBS	BS7002	Foundation Course in Information Biology	3	https://www.ntu.edu.sg/sbs/admissions/programmes/graduate/graduate-programmes/detail/sbs-ph.d.-programme#curriculum	Not available yet	No formal Exam
SOH	HC7016	Chinese Cold War in Sinophone Literature, Film and Culture	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/chinese#Content_C002_Col02	Friday, 2.30pm-5.20pm	Course is conducted in Chinese. Students enrolling in this course must be proficient in both Chinese and English. Advanced-level Chinese proficiency is essential, including the ability to speak, write, and comprehend Chinese fluently.
SOH	HC7101	Graduate Seminar	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/chinese#Content_C002_Col02	Thursday, 9.30am-12.20pm	Course is conducted in Chinese.
SOH	HH7101	Transnational History: Theories, Methods &	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/history#Content_C006_Col02	Wednesday, 10.30am-1.20pm	Nil

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SOH	HH7888	Directed Reading in History	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/history#Content_C006_Col02	Check with course instructor	This is a one-to-one course. Student must look for a faculty member from the History programme and obtain agreement from the faculty member to teach this course HH7888. To check course instructor availability prior submitting application. Student must obtain approval of the specific course
SOH	HH7113	Advanced Directed Readings in History	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/history#Content_C006_Col02	Check with course instructor	This is a one-to-one course. Student must look for a faculty member from the History programme and obtain agreement from the faculty member to teach this course HH7113. To check course instructor availability prior submitting application. Student must obtain approval of the specific course
SOH	HL7108	Graduate Seminar in Victorian Literature & Culture	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/english-(creative-writing)#Content_C003_Col02	Wednesday, 10.30am-1.20pm	Requires background in literary studies.

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SOH	HL7114	Graduate Seminar in Cultural Studies	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/english-(creative-writing)#Content_C003_Col02	Wednesday, 2.30pm-5.20pm	Requires background in literary studies.
SPMS	MH7002	Discrete Methods	4		Tuesday 1:30pm – 3:20pm Wednesday 9:30am – 11:20am	
SPMS	MH7005	Algorithms and Theory of Computing	4		Tuesday 10:30am – 12:20pm Friday 10:30am – 12:20pm	
SPMS	MH7013	Topics in Probability and Statistics II	4		Monday 2:30pm – 4:20pm Wednesday 2:30pm – 4:20pm	
SPMS	MH7018	Graduate Seminar - Pure Mathematics I	4		Monday 10:30am – 12:20pm	
SPMS	PH7002	Concepts in Statistical Mechanics	4		Tuesday 10:30am – 12:20pm Thursday 1:30pm – 3:20pm	
SPMS	PH7006	Classical Electrodynamics	4		Monday 1:30pm – 3:20pm Thursday 10:30am – 12:20pm	
SPMS	PH7014	Optical Spectroscopic Techniques	4		Monday 3:30pm – 5:20pm Wednesday 10:30am – 12:20pm	
SPMS	PH7027	Plasma Physics and Fusion Energy	4		Wednesday 1:30pm – 3:20pm Friday 10:30am – 12:20pm	
SPMS	PH7028	Nanophotonics	4		Wednesday 3:30pm – 5:20pm Friday 1:30pm – 3:20pm	

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SSS	HE7002	Econometrics I	3	https://www.ntu.edu.sg/sss/graduate-education/graduate-research/economics#Content_C047_Col00	Course Instructor: Assoc Prof Feng Qu and Asst Prof Seok Young Hong	Student is to contact the Course Instructors via email, if interested at: qfeng@ntu.edu.sg and seokyoung.hong@ntu.edu.sg
SSS	HE7101	Seminar in Microeconomics	3	https://www.ntu.edu.sg/sss/graduate-education/graduate-research/economics#Content_C047_Col00	Course Instructor: Asst Prof Teh Tat-How Date/Time/Venue: To be confirmed	Student is to contact the Course Instructor via email, if interested at: tathow.teh@ntu.edu.sg