

GENERAL ELECTIVES

In addition to the core modules and the required number of prescribed electives, student teachers in the Secondary track must offer 3 AUs of general electives which can be chosen from subjects offered by the University, whether within or outside the Institute.

This section provides a list and description of the general electives offered in NIE.

Student teachers are responsible for ensuring that the modules they select do not clash on the class timetable and the examination timetable.

Category/ Subject	Module Code	Title	No. of AUs	Pre- requisi tes
Art	AAA180	Introduction to Chinese-brush Painting	3	-
	AAA181	Introduction to Printmaking	3	-
	AAA182	Introduction to Contemporary Sculptural Practice	3	-
	AAA183	Life Drawing	3	-
	AAA184	Drawing	3	-
	AAA280	Introduction to Ceramics I	3	-
	AAA281	Introduction to Ceramics II	3	-
	AAA282	Digital Media and Visual Arts: Still imaging	3	-
	AAA283	Arts Across the Borders	3	-
	AAA284	Visual Arts in Asia	3	-
	AAA285	Screen, Scream & Psychoanalysis: An Introduction to Film Theory	3	-
	AAA286	Traditional and Creative Chinese Painting	3	-
	AAA287	Digital Media and Visual Arts: Moving Image	3	-
	AAA288	Digital Media and Visual Arts: Exploring Modernity through Digital Imaging	3	-

AAA180 Introduction to Chinese-brush Painting

Studio practice of brush technique and the exploration of different subject matters, such as bird, flower, fish, landscape and others.

AAA181 Introduction to Printmaking

Investigates image making through a range of printmaking techniques.

AAA182 Introduction to Contemporary Sculptural Practice

A study of the skills and knowledge pertinent to three-dimensional art, allowing for exploration of contemporary sculptural practices.

AAA183 Life Drawing

Introduction to drawing through an exploration of the figure in both traditional and contemporary frameworks.

AAA184 Drawing

Investigates the nature of drawing, from traditional art practice to the range of meanings drawing has in contemporary art.

AAA280 Introduction to Ceramics I

Intensive module which involves the development of skills and production of clay works through inquiry and handbuilding techniques.

AAA281 Introduction to Ceramics II

Intensive module which involves the development of skills and production of clay works through inquiry and the use of the potter's wheel.

AAA282 Digital Media and Visual Arts: Still Imaging

Introduction to contemporary art making with digital imaging tools. Participants will experience first hand current art making methodologies through theme based works. The course will go through the processes of concept development, basic software tutorials, production and group critiques. Very basic knowledge of Adobe Photoshop and possession of any kind of Digital Still Camera is required.

AAA283 Arts Across the Borders

A study focused on the discovery and understanding of the artistic heritage, psychogeography and socio-cultural significances of a specific part of Singapore. For 2005, the site chosen will be the very vibrant and colourful area of Joo Chiat/ Katong. "Borders" in this sense may comprise the historic, contemporary, architectural, cultural, social, political, psychic and imaginary boundaries that define every day life in the area. A considerable part of the course will be spent doing experiential work (maps, photography, video itself). Course work will involve comprising Situationist-inspired interventions that take as starting point the ways that this particular quarter and its inhabitants perform.

AAA284 Visual Arts in Asia

Introduction to the various art forms in Asia. Influences of historical background, philosophical beliefs and trade has on symbolism, forms and techniques of artistic practices.

AAA285 Screen, Scream & Psychoanalysis: An Introduction to Film Theory

The course offers an introduction of screen theory and psychoanalysis. Lectures, readings, group projects and most significantly, the viewing of a whole series of films, from classic contemporary (Hitchcock to Almodovar) will form the basis of the course work.

AAA286 Traditional and Creative Chinese Painting

Basic skills of Chinese Painting, including the use of the Chinese brush, the painting of basic strokes, composition and the use of colour. Opportunities will be provided for students to explore new ideas of combining calligraphy and painting as an attempt to create a new approach to Chinese painting.

AAA287 Digital Media and Visual Arts: Moving Image

Introduction to contemporary art making with digital video tools. Participants will experience first hand current art making methodologies through themed based works. The course will go through the processes of concept development, basic software tutorials, production and group critiques. Very basic knowledge of any video editing software and possession of any kind of Digital Video Camera would be beneficial but not mandatory.

AAA288 Digital Media and Visual Arts: Exploring Modernity through Digital Imaging

Who is Picasso? What is Minimalism? Using digital imaging as an entry point, this course looks to introduce participants to concepts of modern art while providing one with basic digital imaging and imaging software skills. Through studio projects, lecture and class discussion, participants will explore and learn about key movements in art history through possibilities in digital imaging.

General Elective: Chinese Language and Literature

Category/ Subject	Module Code	Title	No. of As	Pre- requisites
Chinese Language and Literature	AAC180	Chinese Calligraphy	3	#
	AAC280	Introduction to Traditional Chinese Customs and Beliefs	3	#

Pre-requisites:

- A1, A2, B3 or B4 in “ AO” CL2 (or CL)
- A1 or A2 in “ O” Lvl CL1 (or HCL)
- A, B, C, D or E in “ A” Lvl CL2 or CL1 (or HCL)

(Student teachers specialising in Chinese are **exempted** from these pre-requisites)

AAC180 Chinese Calligraphy

Origin and development of Chinese calligraphy; various styles; lives and styles of prominent calligraphers; the use of the Chinese brush; techniques in writing the basic strokes; demonstrations and practices.

AAC280 Introduction to Traditional Chinese Customs and Beliefs

Daily lives of the Chinese and traditional customs and beliefs; Chinese customs and beliefs as reflected in popular idioms and moral precepts; Chinese myths and legends; traditional Chinese festivals.

General Elective: Drama & Performance

Category/ Subject	Module Code	Title	No. of AUs	Pre- requisites
Drama & Performance	AAU280	Voice Studies & Production	3	-
	AAU281	Introduction to Playwriting	3	-
	AAU282	Shakespeare on Film	3	-
	AAU283	Drama in the Literature Classroom	3	-
	AAU284	Drama in the Primary School Classroom	3	-
	AAU285	Visual Culture and Performance in Contemporary Singapore	3	-

AAU280 Voice Studies & Production

Aims to strengthen and enhance both the student teachers' natural voice and their use of the voice in various working contexts, particularly that of the school classroom. Uses established approaches to develop physical and personal awareness, a feeling for the dynamics of language, and understanding of basic theory of physiology and voice production.

AAU281 Introduction to Playwriting

The fundamentals of writing for the stage. The one-act play as a useful introduction to dramatic language and structure. The one-act play as an elaboration of a single incident, theme and subject matter, and the "discovery" of theme as an action's controlling ideas, plot construction and related elements such as beginnings, endings, proportion, climax, pacing, the building of suspense, characterisation through action and through dialogue; and the revision of dialogue.

AAU282 Shakespeare on Film

The aesthetic and technical aspects of adapting or translating Shakespearean drama to the screen. Consideration of such cinematic adaptations as Oliver's *Othello*, the Nicol Williamson and Mel Gibson versions of *Hamlet*, Kenneth Branagh's production of *Henry V*, and *Macbeth* and *King Lear* as rendered by Akira Kurosawa.

AAU283 Drama in the Literature Classroom

How to apply drama strategies to the teaching of literature. Range of process drama techniques to enhance creative learning outcomes in the teaching of literature. Focus on a core literary text currently on the curriculum.

AAU284 Drama in the Primary School Classroom

How to apply drama strategies in the Primary School Classroom. Range of process drama techniques to enhance creative learning outcomes across the Primary School curriculum, particularly in history and the social sciences.

AAU285 Visual Culture and Performance in Contemporary Singapore

Provides a critical introduction to: visual culture in contemporary Singapore; our everyday performance and negotiation of visual culture; the aesthetic strategies with which contemporary arts and performance practice engage visual culture. Case material may be drawn equally from current local/international visual culture forms (film, television, movies, advertising, fashion, public spaces & shopping centres) and local/international arts and performance practice. Course sessions will take the form of lectures, videos, excursions to shopping centres, performances & exhibitions, experimental improvisations, group discussions and presentations.

General Elective: Education Studies

Category/ Subject	Module Code	Title	No. of AUs	Pre-requisites
Education Studies	AED280	Problem-solving Strategies of Primary School Pupils	3	-
	AED281	Basic Counselling Skills for Teachers in Initial Training Programmes	3	-
	AED282	Fundamentals of Group Guidance	3	-
	AED380	Motivating Pupils to Learn	3	-
	AED381	Facilitating Asynchronous Online Discussion	3	-
	AED382	Designing ICT-Based Constructivist Activities	2	-
	AED383	Facilitating and Managing ICT-Supported Interdisciplinary and Collaborative Projects	2	-
	AED480	Problems and Issues in Singapore Education	3	-

AED280 Problem-solving Strategies of Primary School Pupils

Strategies of investigation; imitation; imagination; language and manipulation; material-rich environment; problem, knowledge and discovery activities; ways of consolidating and generalising competencies; further elaboration.

AED281 Basic Counselling Skills for Teachers in Initial Training Programme

Mental health and maladjustment. Identifying pupils with behavioural and emotional problems. The counselling relationship and role of the teacher as a counsellor. Different approaches to counselling. Communication skills in counselling. Techniques in counselling. Qualities of the effective counsellor.

AED282 Fundamentals of Group Guidance

Understanding group dynamics in the classroom. Group theories and techniques in group guidance. Developmental guidance to enhance learning and social interaction in the classroom. Fostering thinking skills and creativity in groups. Decision-making, problem-solving and conflict resolution in groups.

AED380 Motivating Pupils to Learn

Psychological needs affecting pupils' learning. Motivation and its relationship to classroom learning and pupil behaviour. Creating a conducive learning environment. Factors affecting motivation to learn. Making learning interesting to motivate pupils. Effective strategies to motivate reluctant and disinterested learners. Planning and evaluating motivational strategies in the classroom.

AED381 Facilitating Asynchronous Online Discussion

This module will discuss how the asynchronous online discussion can be used as an effective instructional strategy within primary and secondary school contexts. The topics covered will include the integration of the asynchronous collaborative online discussion environment with the face-to-face approach, the role of the teachers in designing and evaluating the environment, and the use of scaffolds in the online discussion environment to facilitate critical thinking skills.

AED382 Designing ICT-Based Constructivist Activities

This module provides an opportunity for participants to learn constructivist learning theory and examples of how ICT tools may be used to support constructivist learning. We will also discuss how to assess constructivist learning. Opportunities will be provided for participants to design ICT enhanced learning activities using constructivist approach.

AED383 Facilitating and Managing ICT-Supported Interdisciplinary and Collaborative Projects

The participants will be introduced to the key features of an interdisciplinary project, skills of collaborative learning and scaffolding tools to design projects for primary schools. They are expected to work in groups of 4-5 to design the project, hold online meetings, conduct on-going group and individual reflections and maintain the project file in the online environment. At the end of this module, the participants will be equipped with the necessary knowledge and skills to conduct Project Work (PW) via the online and face-to face classroom setting.

AED480 Problems and Issues in Singapore Education

A socio-historical study of problems and issues in Singapore Education; reform and school effectiveness; school drop-outs and the educational disadvantages of working class children; subject-centred and student-centred curriculum; co-operative learning and beginning teachers' concerns.

General Elective: English Language

Category/ Subject	Module Code	Title	No. of AUs	Pre- requisites
English Language	AAE280	Creative Writing	3	-
	AAE281	Teacher Talk	3	-
	AAE282	Drama in Language Education	3	-
	AAE283	Introduction to Children's Literature	3	Not for student teacher whose AS is E Lang & E Lit

AAE280 Creative Writing

Workshop approach to develop writing skills of student teachers in aspects of poetry, or fiction, or drama. Exploration of good models; student teachers' own writing process; and constructive critique of work produced.

AAE281 Teacher Talk

Focuses on teachers' use of language (both oral and written) in the language classroom, examining the use of language for both instructional and regulative purposes. Analysis of teacher talk through video/transcripts. A practically oriented module that will enable student teachers to apply theory to practice in order to enhance self-awareness and effectiveness in teaching through the good use of language.

AAE282 Drama in Language Education

Introduction to the use of drama in the language classroom, focusing on techniques such as improvisation, hot-seating, role-play and mime to enhance learning and creativity. Development of a language curriculum incorporating drama.

AAE283 Introduction to Children's Literature

Examination of the range of major forms and genres in children's literature, focusing on important traditions, themes and conventions, and exploring their relevance to the linguistic and imaginative development of young readers . Areas of study may include: Western and Asian oral and written traditions, fairy tales, fable, myth, fantasy literature, picture books and `classic' children's literature.

General Elective: English Literature

Category/ Subject	Module Code	Title	No. of AUs	Pre- requisites
English Literature	AAR280	Literature and Travel	3	-
	AAR281	Poetry Workshop	3	-
	AAR282	Short Story Workshop	3	-
	AAR283	Literature and Technology	3	-
	AAR284	The City in Literature	3	-

AAR280 Literature and Travel

This module considers the significance of travel in different periods and across various geographical spaces. It will explore the ways in which writers represent the encounter with the Other and the foreign as well as the notion of travel itself. The following issues among others will be of particular significance: the relationship between travel and imperialism, the production and performance of the self in travel, travel as education, and the impact of travel on racial and gendered identities. Travel for pleasure and adventure will be considered together with other forms of travel like the pilgrimage and forced migration. Writers to be considered include Olaudah Equiano, Mary Kingsley, V.S. Naipaul, Jamaica Kincaid, Pico Iyer, Vikram Seth and Bruce Chatwin.

AAR281 Poetry Workshop

Examination of variety of possible forms of poetic creativity, focusing on the characteristics of the genre, the function of intensity of expression and the role of originality. Student teachers are invited to experiment in original and individualistic ways, stretching the range of use of language, rhythm, voice and control.

AAR282 Short Story Workshop

This module examines the demands of the short story form. What is a short story? What makes a good short story? How do you work on characters or engage the readers in a short story? Student teachers write their own stories as a way of responding to these questions.

AAR283 Literature & Technology

This module introduces student teachers to the study of science fiction through an examination of major Sci-Fi films from 2001: A Space Odyssey (1968) to the present. We will also read three short, classic science fiction novels with close links to film: Margaret Atwood's *The Handmaid's Tale* (and its film adaptation); Philip K Dick's *Do Androids Dream of Electric Sheep?* (the source of *Blade Runner*); and Stanislaw Lem's *Solaris* (in relation to the two films made from it). We will be primarily concerned with the nature and politics of science fiction as a genre (or genres) and with the differences between literary and cinematic science fiction.

AAR284 The City in Literature

The representation of the city in literature and art. Urbanisation, industrialisation, alienation and depersonalisation; educational advancement, centralised efficiency, commercial growth, independence of thought and social harmony. Is there a common bias against an accurate representation of the city?

General Electives: Foundation Programmes

Category/ Subject	Module Code	Title	No. of AUs	Pre- requisites
Community Service	AFP180	Service Learning & Volunteerism	2	-

AFP180 Service Learning & Volunteerism

The joy of sharing and volunteerism. Lectures to provide content and understanding of what service learning as a prelude to field experience. Student teachers to be involved in volunteer work of their choice either individually or as a group for a person or persons in need, community, school, NGO, or other relevant non-profit agencies locally or abroad, that would result in a contribution towards that person or community and also provide an opportunity for critical thinking and self reflection. Service-learning fieldwork to be over a sustained period of time of not less than 20 hours either during a semester or the vacation. Assessment by written report reflecting the following: experiences, problems faced and how they are overcome, benefits accrued to the party helped as well as to the student teacher, lessons learned, and advice to others in future. It is advised that this module be taken during the first two years of the Degree programme.

General Electives: Geography

Category/ Subject	Module Code	Title	No. of AUs	Pre- requisites
Geography	AAG180	Human Impact on the Environment	3	Non-Geog Student Teachers
	AAG181	Singapore in Asia	3	Non-Geog Student Teachers
	AAG280	Urban Environmental Management in the Asia-Pacific	3	Non-Geog Student Teachers
	AAG281	Introduction to Geographical Information Systems	3	Non-Geog Student Teachers
	AAG282	Contemporary Chinese Cities	3	Non-Geog Student Teachers
	AAG283	Understanding Japan : Place, People, Perceptions	3	Non-Geog Student Teachers
	AAG284	Development and Nature Conservation	3	Non-Geog Student Teachers

AAG180 Human Impact on the Environment

This module will introduce the earth as a dynamic system consisting of interacting spheres that define the earth's global environment. Human impact and related environmental change in the atmosphere and ecosphere from the late Quaternary (about 12,000 years ago) to present will be examined. Emphasis will be placed on the types, evidences and causal mechanisms of these environmental changes. In particular, the role of human on these changes will be discussed.

AAG181 Singapore in Asia

This module integrates geographical skills and different study strands – human, environmental and technical – in the study of Singapore in the Asian region. The global positioning of Singapore and the contemporary challenges to development that it faces in a highly competitive and fast changing global environment will be the framework for the study of issues and problems that have emerged - SARS, bird flu, haze, terrorism, implications of cross-straits relations between China and Taiwan, economic liberalization in China and India among others.

AAG280 Urban Environmental Management in the Asia-Pacific

The lectures and seminars designed for this course aim to inform course participants of the current global, regional and local debates about environmental issues and sustainable development that are relevant to urban societies in the Asia-Pacific region. The course is also aimed at encouraging a critical and analytical engagement by the course participants with the issues and policy implications that arise from the debates that are going on in sustainable development. With the economic boom in China and India that has been driving substantive and major changes in urban consumption and production, there are a growing list of environmental and sustainability issues that confront our urban societies today because of global development and competition - local environmental degradation and the local responses as well as implications arising from such competitiveness.

AAG281 Introduction to Geographical Information Systems

Conceptual and technical foundations of geographical information systems (GIS). Basic skills for collecting, storing, manipulating, analysing and presenting geo-spatial data and information. Urban and regional planning, natural resource management, environmental planning through the implementation of modern GIS software. Hands-on practical exercises using GIS with real world data.

AAG282 Contemporary Chinese Cities

The module examines the rapid urban change following market reforms in the 1980s. From restricted access controlled by the '*hukou* system', Chinese cities have since opened up vast opportunities to foreign investors, and China's own nationals, whose dynamic responses to market expansion have led to dramatic spatial, economic and social transformations. Issues of investment policies, global-local integration and dilemmas of regulated planning versus unregulated urban sprawl, environmental impacts, floating population and rising urban poverty are used as case studies.

AAG283 Understanding Japan: Place, People, Perceptions

The module introduces background knowledge of Japan and the perceptions of other East Asian nations towards the country. It comprises three parts. The first part covers the geography of resource distribution and production as well as population dynamics and governance regimes. The second part looks into current changes and problems of development including the ongoing process of political, economic and social transformations. The third section examines the contrasting views toward the island state – the appreciation of its arts and culture, the condemnation of its aggression in the past and the perceived threat of its military resurgence. The “Beauties of Japan” will discuss the popularization of Japanese traditional culture and practices in East Asian nations such as chado, ikebana, kendo, judo and Japanese cuisine, movies and songs. “Ugly Japan” will review the perceptions and controversies with regard to the roles Japan will and can play in the region.

AAG284 Development and Nature Conservation

The rate of urbanization has escalated in the last century, especially in the humid tropics, with associated increase in the number of people residing in the urban centres. This increase in urban centres has led to dwindling of natural areas with severe consequences on the natural environment. This module deals with the impacts of rapid urban growth on the natural environment and discusses the issues related to ecosystem conservation, nature area management, urban planning and conservation, restoration of degraded ecosystem. Case studies from the region will be discussed.

General Elective: History

Category/ Subject	Module Code	Title	No. of AUs	Pre- requisites
History	AAH180	Contemporary Singapore	3	Non-History Student Teachers
	AAH181	Museum Studies – An Interdisciplinary Approach	3	-
	AAH182	Topics in Military History	3	-
	AAH183	Film and Propaganda	3	-
	AAH184	Film as History	3	Non-History Student Teachers
	AAH185	Biography and History	3	Non-History Student Teachers
	AAH280	Women in History	3	-
	AAH281	Introduction to International Relations	3	-
	AAH282	Tradition and Revolt in Southeast Asia	3	-
	AAH283	Contemporary International History	3	-

AAH180 Contemporary Singapore

Provides student teachers unfamiliar with the history of Singapore with an overview of how our past is linked with our present. Topics covered include the founding of Singapore, growth of our port, origins of our plural society, the Japanese occupation, the conflicts of the tumultuous 1950s, merger and separation, and political and economic transformation after 1965.

AAH181 Museum Studies – An Interdisciplinary Approach

Overview of historical background and development of museums. How museums conceptualise their exhibitions to make them interactive and engaging. Conduct effective fieldtrips to museums and develop interdisciplinary learning experiences drawing from the disciplines of History, Social Studies and Art. Fieldtrips will be conducted to the various museums in the Museum Roundtable.

AAH182 Topics in Military History

The chronology and theme focus of this course will vary from year to year. Primary emphasis on the military history of early modern and modern Europe, the United States, and the world wars.

AAH183 Film and Propaganda

The use of film as propaganda in the twentieth century. Focuses on how Hitler and the Nazis used film for propaganda purposes in Germany and traces the skilful manipulation of film during wartime for propaganda purposes by leaders of other nations as well as those of Nazi Germany.

AAH184 Film as History

History does not only include examining the written word. Other mediums, such as film, can be used in looking at the past. This course covers the use of film as a source for exploring the past, and how history has been represented in film. The history of cinema and television is also studied. The emphasis is on empowering student teachers to interpret films in critical and analytical ways, as well as teaching student teachers how films are created. The skills of historical interpretation and writing history are taught.

AAH185 Biography and History

Biography is one of the most popular and enjoyable ways of reading history. Biographers employ a range of interesting methods to discover their subject. Psychoanalysis of the individual's action and using the memories of the subject and those of others who knew him or her are just a few. Studies how life stories are written not only of the "great" figures of history but also of the "unknown" men and women who also "made history."

AAH280 Women in History

Seeks to redress an imbalance in history by looking at "her-story." How women are viewed and written about will be examined through the use of secondary and primary sources such as newspapers, magazines, films, letters, memoirs and diaries. Themes and sample case-studies may be taken from a number of periods and places for comparisons of different traditions, cultures, and religions in order to examine how these affect the family, social, economic and political roles and contributions of women.

AAH281 Introduction to International Relations

Basic introduction to international relations and key issues governing world politics. Emphasis is on three core international relations theories, namely: realism, liberalism, and Marxism. Key issues and theories are analysed in relation to past and current events, and in relation to the themes of conflict, change and cooperation.

AAH282 Tradition and Revolt in Southeast Asia

The rural protests, peasant uprisings and peasant wars under colonial rule are considered to be efforts to check the intrusive influence of modernization and to restore the traditional values which seemingly reflect a golden age in the perceptions of an overwhelmingly rural population in Southeast Asia. This module will examine how far notions such as tradition and rebellion capture the nature of peasants' responses towards the rapid socio-economic changes under colonial rule. The large-scale wars and rebellions after decolonization suggest a radical shift in the peasants' political consciousness and tactics before rapid economic growth pacified the rural population. The module will explore different ways of acquiring an understanding of rural protests, peasant uprisings and peasant wars with reference to the experience of rural population in Indonesia, Burma, Malaya, Philippines, Vietnam and Cambodia between 1880 and 1980.

AAH283 Contemporary International History

This module looks at some of the main controversies in twentieth century international history, right up to the present day. It will include aspects of international relations such as decision-making and the factors and processes that affect it, and clashes between ideologies and beliefs. Typical topics might include the origins of a war, the decision to drop the atomic bomb, the end of empire in a colony, an international or supranational organisation, the history of a current or recent conflict, terrorist groups, and recent American foreign policy. The unifying themes may vary according to recent events, so prospective students should refer to the HSSE website for current details.

General Electives: Malay Language & Literature

Year	Module Code	Title	No. of AUs	Pre-Requisites
1	AAD180	Oral Communication in Malay	3	-
2	AAD280	Jawi Reading and Writing	3	-
3	AAF380*	Islam and Malay Values	3	-
4	AAF480*	Muslim Philosophers and Civilisation	3	-

* These two modules will be offered in English

AAD180 Oral Communication in Malay

Development of effective and intellectual discourse communication skills in using Malay using the new pronunciation system (sebutan baku). Practise in speaking skills such as debating, public speaking. Recitation of old and new forms of poetry.

AAD280 Jawi Reading and Writing

Literacy in Jawi script. Practise in reading and writing Jawi script. *Jawi* as in newspaper and Malay classics.

AAF380* Islam and Malay Values

The kind of values orientation which had evolved among the Malays of Southeast Asia. Analysis of the socio-historical factors that had shaped this orientation. The influence of Islamic philosophy on Malay thought and values.

AAF480* Muslim Philosophers and Civilisation

The works of major Malay and Muslim philosophers and their contribution to civilisation. The four great *imams* and *mazhabs*: Hanafi, Hambali, Shafie and Maliki. The influence of the works of other Muslim thinkers such as Ghazali, Ibnu Sinna, Ibnu Khaldun, as well as Malay thinkers such as Hamzah Fansuri, Nuruddin Ar-Raniri, Bokhari Al-Jauhari, etc on Malay thought and culture.

General Elective: Mathematics

Category/ Subject	Module Code	Title	No. of AUs	Pre- requisites
Mathematics	AAM180	History of Mathematics	3	-
	AAM181	Statistics Around Us	3	Non-AS:Math student teachers
	AAM182	Introductory Mathematics	3	-
	AAM183	Understanding Higher Mathematics	3	-

AAM180 History of Mathematics

Open to both mathematics and non-mathematics majors. Student teachers survey the personal lifestyles and philosophies of several well-known mathematicians, from Archimedes to Einstein. This will highlight the historical development of certain branches of mathematics.

AAM181 Statistics Around Us

Introductory course in statistics for student teachers who need to understand basic statistical concepts in their own field of study. Topics covered include: sampling techniques, generation of random numbers, applications and examples of distributions, e.g. binomial, Poisson, geometric distributions etc. The use of appropriate statistical software. This elective is not for student teachers taking AS Mathematics.

AAM182 Introductory Mathematics

Basically a bridging module for AS mathematics student teachers who require it. Topics to be covered are: number systems, set theory, co-ordinate geometry, functions and relations, trigonometry, matrices and vectors, methods of proofs, complex numbers, binomial theorem, partial fractions, probability and statistics.

AAM183 Understanding Higher Mathematics

Limits and continuity. Differentiation and applications of differentiation. Integration and applications of integration. First and second order ordinary differential equations. Vectors in 2-space and 3-space, norm of a vector, dot product, cross product, lines and planes in 3-space. Euclidean n -space, vector operations; dot product, orthogonality, Cauchy-Schwarz inequality. Linear transformation from \mathbb{R}^n to \mathbb{R}^m , standard matrices. Eigenvalues and eigenvectors. Student teachers will also be introduced to a Computer Algebra System (or CAS) and its applications in the topics discussed.

General Elective: Music

Category/ Subject	Module Code	Title	No. of AUs	Pre-requisites
Music	AAI280	Improvisation	3	-
	AAI281	Movement Studies	3	-
	AAI282	Percussion	3	-
	AAI380	Studies in Indian Music	3	-
	AAI381	Studies in Japanese Music	3	-
	AAI382	Classical Guitar I	3	-
	AAI383	Choir I	3	-
	AAI384	Choir II	3	-
	AAI385	Voice	3	-
	AAI386	Recording	3	-
	AAI387	Band I	3	-
	AAI388	Band II	3	-
	AAI389	Further Percussion	3	AAI282 or audition
	AAI390	Music Criticism and Writing	3	-
	AAI480	Studies in Chinese Music	3	-
	AAI481	Studies in Malay Music	3	-
	AAI482	Classical Guitar II	3	AAI382 or audition
	AAI483	Choir III	3	-
	AAI484	Choir IV	3	-
	AAI485	Studies in Pop and Jazz	3	-
	AAI486	Music and Acoustics	3	-
AAI487	Band III	3	-	
AAI488	Band IV	3	-	
AAI489	Advanced Conducting	3	-	
AAI490	Shakuhachi Ensemble	3	-	

Note :

Student teachers who wish to take up any Music General Elective must either satisfy stated pre-requisites for specified modules or, where pre-requisites are not specified, must attend the first session for that elective, called an audition, to determine their suitability.

AAI280 Improvisation

A practically-based course in the various musical and thought processes that underpin improvisation as a music-making activity with reference to a number of cultural contexts.

AAI281 Movement Studies

Revolves around some of the practical possibilities of making the body respond to music.

AAI282 Percussion

A practically-based course in percussion playing and developing skills on a range of instruments as well as in ensemble playing.

AAI380 Studies in Indian Music

A practical based course on both North and South Indian classical music. The study involves developing instrumental skills in performing on the tablas, sitar and using Indian vocal techniques.

AAI381 Studies in Japanese Music

Involves one or two traditional ensemble instruments, koto or shakuhachi. Largely a practical based course. Music activity will involve learning and developing skills in performing on the respective instruments as well as in ensemble playing.

AAI382 Classical Guitar 1

Beginner's course in learning to play the classical guitar. Reading of basic notation and understanding and recognising chord symbols.

AAI383 Choir I

Participation in the NIE Choir. Study of choral repertoire from all periods, concentration on vocal and choral techniques as related to musical styles, preparation and presentation of concerts.

AAI384 Choir II

Further experience of the choral repertoire and of vocal techniques in the NIE Choir.

AAI385 Voice

Fundamentals and techniques of singing. Study of the basic technique, repertoire and function of the vocal mechanism.

AAI386 Recording

Basic acoustics and Engineering Theory. The process of recording. Differences in commonly-used recording techniques. The nature and operation of studio equipment. Recording live music. Assembling a domestic playback system. Exposure visits to various professional studios.

AAI387 Band I

Rehearsing and performing in the symphonic band. The band provides performers with a wide range of repertoire.

AAI388 Band II

Further participation in the symphonic band to perform the fine band literature, both original and transcribed, for the modern band, including premieres of new works.

AAI389 Further Percussion

A further exploration and experience in percussion playing and developing skills on a range of percussion instruments as well as in ensemble playing.

AAI390 Music Criticism and Writing

This module seeks to generate an environment of critical thinking and discourse about music and the ability to communicate these thoughts effectively to a wider public through print media and medium.

AAI480 Studies in Chinese Music

The study of performance of Chinese flute in ensemble playing. Playing techniques and skill development. Ensemble playing with other Chinese musical instruments.

AAI481 Studies in Malay Music

Learning and playing of the Malay framed drums, kompang and the Malay lute gambus. Performance techniques will involve acquiring skills in interlocking rhythmic variations and doing group performances.

AAI482 Classical Guitar II

Advanced techniques in guitar performance will be taught. Development of a broadly based classical guitar repertoire.

AAI483 Choir III

Further experience of the choral repertoire and of vocal techniques. Based on individual singing proficiency, trainee teachers may be assigned to participate in the NIE Choir or, the NIE Singers, an *a cappella* vocal ensemble which consists of a selective group of singers.

AAI484 Choir IV

Further experience of the choral repertoire and of vocal techniques in the NIE Choir or the NIE Singers.

AAI485 Studies in Pop & Jazz

A study of the development of popular music in the late 20th century from its European and Afro-American roots. This is largely a practical based course.

AAI486 Music and Acoustics

A musician's approach to acoustics as the science of sounds and deals with the aspects of perception, propagation and transmission of sound as well as an exploration of acoustics of musical instruments.

AAI487 Band III

Continued experience in the symphonic band. To perform literature of the highest aesthetic value with emphasis on major original works.

AAI488 Band IV

Advanced experience in performing the band literature which requires individual musicianship and advanced playing techniques.

AAI489 Advanced Conducting

Development of knowledge and skills at a professional level; various periods and composers and relationship of different styles to the conductor's art; musical analysis and practice in conducting.

AAI490 Shakuhachi Ensemble

An exploration of the practical-based approach to the shakuhachi in both individual and ensemble playing based on repertoire of both traditional and popular genres.

General Elective: Natural Sciences

Category/ Subject	Module Code	Title	No. of AUs	Pre- requisites
Natural Sciences	AGE180	Environmental Science	3	-
	AGE181	Appreciation and Identification of Gemstones	3	-
	AGE183	Human Diversity	3	-
	AGE184	The Living World	3	-
	AGE185	Food Biotechnology	3	-
	AGE186	Conservation and Management of Natural Habitats	3	-
	AGE187	Economic Botany	3	-
	AGE188	Life Sciences and Man	3	-
	AGE189	Animal Behaviour	3	-
	AGE190	Life in the Marine Environment	3	-
	AGE191	Life Sciences: From Genes to Genomes	2	-
	AGE195	Chemistry for Life Sciences	3	-

AGE180 Environmental Science

Provides a comprehensive introduction to a complex interdisciplinary field. To provide student teachers with sufficient background and information to think about how to approach the environment and the hazards posed rather than just provide simple “cookbook” solutions.

AGE181 Appreciation and Identification of Gemstones

With gemstones as the theme, student teachers will be able to learn (a) chemistry: elements and compounds, chemical compositions, and crystal structure; (b) physics: density, hardness, toughness, weights, reflection and refraction of light, dispersion of light; and luminescence; (c) biology: studies on organic gemstones such as amber from plants, ivory and pearls from animals; (d) aesthetics and fashion: cutting patterns of gemstones, selecting the gemstone for the occasion; (e) geology: origin of gemstones, mineral deposits, mining methods; (f) geography: distribution of gemstones; and (g) science education: knowledge in properties of gemstones can be used to teach basic concepts in science such as chemical compositions, and optics in primary or secondary school levels. Furthermore, for personal development, the student teachers will be more aware of imitations and synthetic gemstones when they wish to purchase one. They will also learn to appreciate the diversity and usefulness of gemstones in homes, and industries.

AGE183 Human Diversity

Questions on human origin and diversification. Prevailing theories of where humans came from and why humans have been so successful as a species. Diverse range of methodologies such as archaeology, linguistics, paleontology, and genetics will be highlighted in this multi-disciplinary field.

AGE184 The Living World

Teaching life science by telling its story. Approach taken is one of progression: - the origin of life, from single cell to multicellular organism, from continuity of life to the diversity of life. Energy and life processes of cells - growth, movement and transport of molecules across membranes, and in photosynthesis. The later part of this course will tell you a story how green cells capture energy from sunlight to make chemical energy, how the living cell including your body cells use the chemical energy to power their lives.

AGE185 Food Biotechnology

Uses of micro-organisms in producing and modifying food. Food fermentation and enzyme technologies in: dairy industry (cultured milk products, yoghurt), juice and alcohol production (wine, beer), baking industry, vegetable- (olive, kimchi, tempeh) and meat-processing (sausages, salami) plants. Genetically modified organisms (GMOs) in food. Monitoring food safety. Recent advances in miniaturisation, automation and molecular methods for rapid detection of pathogenic and genetically modified organisms in food.

AGE186 Conservation and Management of Natural Habitats

Natural areas and the means by which they can be best preserved and managed. The conflicting demands between development and economic growth on one hand and conservation on the other. The management of natural areas -- such as mangrove swamps, primary and secondary forests and rocky shorelines -- and the dilemmas for policy makers to maintain a balance between ecosystem, recreation, and economic needs. Singapore, as an excellent case study, where these issues have been considered and resolved through, sometimes, difficult decisions.

AGE187 Economic Botany

Economically important plants and the dependence of man on plants. Plants of actual and potential uses as food, medicine, fibre and timber. Traditional ways of using and managing plants, plants as renewable resources, current trends in bioprospecting for novel plant products of pharmaceutical and industrial value.

AGE188 Life Sciences and Man

The success of biological science breakthroughs and its impact on man. Focus is broad based, covering areas such as antibiotics, the green revolution and the latest in the world of molecular and DNA technologies and its implications on man's future.

AGE189 Animal Behaviour

Why do bees dance? Why do some birds lay eggs in another birds' nest? Infanticide, siblicide, suicidal reproduction, total defence of a piece of real estate, the territory– which sex drives this behaviour, what are the costs and benefits of these behaviours? How do animals pilot or navigate from one place to another? How do chimpanzees design tools and megatools? How are some behaviours learned? What is the size-maximization principle? Is behaviour adaptive? How do we explain animal behaviours? How do ethologists study animal behavior? How can we observe or design some lab and field experiments to study animal behaviour?

AGE190 Life in the Marine Environment

The ocean as habitat; classification of the marine environment. Adaptations of marine life. Intertidal shore communities and soft-bottom communities. Estuaries, continental shelf and coral reefs as ecosystems. Economic uses of estuaries. Living in the epipelagic, the nature of the epipelagic food webs. Life in the abyss and deep-sea hot springs. Resources from the sea.

AGE191 Life Sciences: From Genes to Genomes

A general course for degree student teachers to introduce them to some basic concepts and current issues in the life sciences. Topics for the course include: What is life sciences all about & why should we care?; Plagues, bird flus, and mad cows, human diseases; plant diseases; basic cell biology; plant breeding & the green revolution; the chemistry of life; genes and molecular genetics; sex, clones and generically modifies organisms; recombinant DNA Technology; social and ethical concerns of GMOs and impact of GMOs on the managing “radical” developments in the life sciences); gene therapy, molecular medicines; modern “pharming”, biotechnology applications, and transgenic animals; industrial plants; plants as factories); the growing of pest resistant crops in developed & developing counties); life sciences Inc., life science research & business opportunities.

AGE195 Chemistry for Life Sciences

This module provides the fundamental chemical knowledge essential for understanding and appreciation of the life sciences. It is organized into three main sections: General and Biophysical Chemistry (building blocks of life, oxidation and reduction, chemical equilibria, buffers, pH, concepts of energy). Organic Chemistry (structure and classification, functional groups, selected classes of biologically important organic compounds). Biomolecules and Biopolymers (fats and oils, steroids, vitamins, sugars; naturally occurring polymers). Most of the topics will be illustrated with relevant examples from biological systems.

General Elective: Physical Education & Sports Science

Category/ Subject	Module Code	Title	No. of AUs	Pre-requisites
Physical Education and Sports Science	APA180	Health and Fitness	2	Non-PE student teachers
	APA280	Weight Training	1	-
	APA281	Aerobics	1	-

APA180 Health and Fitness

Basic scientific knowledge about one's body and the use of this information and understanding to improve health and wellness through exercise, diet and stress management techniques.

APA280 Weight Training

Weight (resistance) training techniques, terminology, and methods. Safety procedures related to the use of both fixed equipment and free weights. The principles of specificity, overload, and adaptation in relation to strength training, endurance training, power training, and circuit training. Basic physiology is introduced.

APA281 Aerobics

Teaching aerobics classes in school. Utilising fitness principles from the 'Fitness and Conditioning' module and adapting them to an aerobics setting. Instruction in low and high impact activity and insights into class flow and choreographing a routine. Resistance training. Construction and organisation of routines in a workshop setting.

General Elective: Tamil Culture

Category/ Subject	Module Code	Title	No. of AUs	Pre- requisites
Tamil Culture	AGE182	An Introduction to Indian Culture and Customs	3	-

AGE182 An Introduction to Indian Culture and Customs

Geographical and Social Developments. Historical Perspectives of India. Language and Literature Developments. Indian Arts. Indian Beliefs, Culture and Customs (Traditions and Philosophy). Folklore and Scientific Thoughts. Indian Lifestyles. Tamils and Indians groups in Singapore.