Course Description
For Bachelor of Education in Chinese / English / Mathematics / Integrated Science / Primary Education / Pre-primary Education
For Intakes on and after Academic Year of 2019/2020

APAC1000   ADVANCED MATHEMATICS I
The course aims at providing mathematical concepts and methods to students in the study of classical mechanics, electromagnetism, quantum mechanics as well as statistical mechanics. The topics will cover linear algebra, vector calculus, special functions, complex numbers and hyperbolic functions.
Pre-requisite: None

APAC1001   COLLEGE PHYSICS
In this part, mechanics included rotation, gravitation, elasticity, oscillation, waves, sound waves, fluid, gas theory and laws of thermodynamics will be introduced.
Pre-requisite: None

APAC1002   ELECTROMAGNETISM AND PHYSICAL OPTICS
In this part, Electromagnetism will be introduced in terms of forces, fields, potential, laws, current, circuits, induction, circuit components, electromagnetic waves, light, geometric optics, interference and diffraction.
Pre-requisite: None

APAC1003   INTRODUCTION TO COLLEGE CHEMISTRY
This course addresses the basic concepts of chemistry through lectures and laboratory experiments. Topics include: atoms and molecules, periodic table, electronic structure, chemical bonding, chemical reactions, electrochemistry, and organic chemistry.
Pre-requisite: None

APAC2000   ADVANCED MATHEMATICS II
The course is the extension of Advanced Mathematics I. The course aims at providing mathematical concepts and methods to students in the study of classical mechanics, electromagnetism, quantum mechanics as well as statistical mechanics. The topics will cover infinite series, Fourier series and transformation, ordinary differential equations, probability.
Pre-requisite: APAC1000

APAC2001   ANALYTICAL AND ENVIRONMENTAL CHEMISTRY
Introduction of analytical chemistry, including the concept of analytical chemistry, sample preparation, analysis methods, quality control, as well as analytic techniques for environmental science. Related experiments will also be arranged in this course.
Pre-requisite: None

APAC2003   INORGANIC CHEMISTRY
Introduction of inorganic chemistry, including general principles of chemistry, periodic properties of elements, acid-base theory, structure of compounds, s, p, d-block elements, etc. Some related experiments will be included.
Pre-requisite: None
APAC2004 QUANTUM PHYSICS
Introduction to quantum mechanics. It may cover the following topics: Wavefunction and Schrodinger equation, observables, eigenfunctions, One-dimensional steady state problem, Mechanical quantities expressed by operators and representation transformation, The evolution of mechanical quantities over time and symmetry, The Schrodinger equation in spherical coordinates, Spin and orbital angular momentum, Quantum transitions, The hydrogen atom and the addition of angular momenta.
Pre-requisite: APAC2000

APAC2005 EARTH AND UNIVERSE
In this course, we aim to explain the fundamental concepts including gravity, Einstein’s relativity, cosmology, etc. Topics including the solar system, the climate of the earth, the life cycle of stars, gravitational lensing, cosmic microwave background radiation will also be discussed. No prior knowledge of astronomy is necessary.
Pre-requisite: None

APAC3000 MATERIALS PHYSICS AND CHEMISTRY
The course will introduce the general synthesis methodologies in material science based on Physics and Chemistry principles. Exploration and applications of novel and functional materials, especially in modern technology, will also be covered in the course.
Pre-requisite: None

APAC3001 SOLID STATE PHYSICS
In this course, the behavior of atoms and shared electrons in solids will be described by classical physics and quantum mechanics. The discussion of solid with crystalline structure will be one of the emphases. Some properties of crystal such as defects, disorder and thermal vibration will be studied. Then, band theory and motion of electron will be investigated.
Pre-requisite: None

APAC3002 THERMODYNAMIC AND STATISTICAL PHYSICS
This course introduces the foundations of statistical mechanics to students with a strong mathematics and physics background, who are contemplating a major in Physics or interested in a rigorous treatment of physics. The main contents include the zeroth, first, second and third laws, thermodynamical potentials and Legendre transformation, phase coexistence and phase transition, thermodynamical stability, statistical distribution of almost independent systems, and others.
Pre-requisite: None

APAC3005 PHYSICAL CHEMISTRY
This course provides a theoretical and mathematical description of the physical behavior of chemical systems. Introduce and interpret observations on the physical and chemical properties of matter. Physical chemistry is also essential for developing and interpreting the modern techniques used to determine the structure and properties of matter, such as new synthetic materials. Related experiments will also be arranged in this course.
Pre-requisite: APAC1003

APAC3007 LOW-DIMENSIONAL PHYSICS
The course aims at an introduction to basic principles of nanophysics allowing working
in research and development in nanotechnology. Students will learn basic principle of physics of nanometer-size systems with a focus on basic physical phenomena.
Pre-requisite: None

APAC3008  NANOCHEMISTRY
Introduction of nanomaterials and nanochemistry, including the concept of nanoscale, the band structure and the corresponding characters of nanomaterials, the fabrication, modification and application of nanosystem.
Pre-requisite: None

APAC3009  ORGANIC AND POLYMER CHEMISTRY
Introduction of various classes of organic and polymer compounds, emphasizing organic and polymer chemical reactions and mechanisms of major functionalities and their importance in the area of chemistry. Topics covered include: structure and bonding; regio-, geometric, and stereoisomerism; substitution and elimination reactions; synthesis and reactions of alcohols and epoxides; structure and properties of polymer; free radical polymerization; condensation polymerization; crystallization and crosslinking of polymer chains; characterization and application of organic and polymer compounds. Related experiments will also be arranged in this course.
Pre-requisite: None

CPED1001/CPED1002  PHYSICAL EDUCATION I/ PHYSICAL EDUCATION II
Physical Education consists of theory of fitness (Part I) and basic sport concepts, knowledge and skill practice in team sport and individual sport (Part II). Part I covers sport relevant concepts including the function of sports in life, sports injury prevention & treatment and sport knowledge. Students will learn theory, principle and regulation in fitness. And know how to do exercise and workout regularly. Part II focuses on skill-based physical fitness which includes one team sport and one individual sport. Students will be guided to apply the concept of fitness, sport theory and game strategy with skill when they learn sports for participating in sport and sport practice continuously.
Pre-requisite: None

ECEN1008  PHYSICS I
This is a general physics course for engineering students. Firstly, kinematics will be introduced including straight line and plane motion. Then, the causes of motion will be elucidated and summarize into laws of force. Concepts of energy and work will be discussed with conservation law. Draw an analogy between translational and rotational motion. Laws of thermodynamics will also be studied.
Pre-requisite: None

EDUC1000  INTRODUCTION TO EDUCATION
This course aims to help students understand the general law of the human education system. From historical, theoretical and practical perspectives, the course explores (1) the fundamentals of education, (2) the relationship between education and social, political, economic and cultural developments, and (3) the relationship between education and human physical and mental developments (teleology), and (5) the relationship between teachers and learners. It also discusses issues about education systems/structure, curriculum and instruction, moral education, educational management, etc.
Pre-requisite: None

**EDUC1001 PHILOSOPHY OF EDUCATION**
This course is designed to show the important influence of educational philosophy on different philosophical theories. All educators and educational investigators should be equipped with a knowledge base of Western and Chinese educational philosophies in order to seek a correct educational orientation. The course will cover topics such as the definition of philosophy and education, their relationships and their basic problems, with a systematic analysis, comparison and evaluation of various schools of educational philosophies, studying their advantages and disadvantages and their influences on teaching. Other topics include analysis of educational concepts, critique of educational philosophies, examination of classical educational doctrines, evaluation of modern educational problems and reflection on one's educational beliefs and aspirations.
Pre-requisite: None

**EDUC1002 HISTORY OF CHINESE LITERATURE AND ITS TEACHING I**
本科主要介紹先秦兩漢至隋唐這段歷史時期重要的文體 (詩、散文、賦、樂府、駢文等)特點、文學流派、文論發展、名家作品等，說明文學與思想、政治、社會等關係，並教授學生如何蒐集相關的文、論材料，編寫教材，選用適當的教學法，以便將來能在中學教學實踐中靈活正確運用。
先修科目：沒有

**EDUC1003 HISTORY OF CHINESE LITERATURE AND ITS TEACHING II**
本科主要介紹宋元明清這段歷史時期重要的文體 (詞、曲、劇、小說、新民體)特點、文學流派、文論發展、名家作品等，並說明文學與思想、政治、社會等關係，並教授學生如何蒐集相關的文、論材料，編寫教材，選用適當的教學法，以便將來能在中學教學實踐中靈活正確運用。
先修科目：沒有

**EDUC1004 MODERN CHINESE LANGUAGE AND ITS TEACHING**
本科旨在切合澳門現行中學語文教學的內容和要求。教學內容以中學課程教學需要為導向，即字、詞、句的講解，以及語法和修辭的分析。內容除通論現代漢語的基本知識外，並簡述邏輯與語文的關係，培養學生的語文思維能力，藉以提高學生在語文教學方面的能力。
先修科目：沒有

**EDUC1005 TEACHING AND LEARNING OF THE ANCIENT AND MODERN CHINESE CHARACTERS**
漢字是漢語的基本單位，是形音義結合的符號體系，故本科將從歷史發展的角度，考察漢文字字形、字音、字義的變遷，講授漢字的性質、特點和結構，以及漢字簡化等問題，以增進學生對漢字的理解。又文言以一字一詞為主，故本科亦將講授文言詞彙的基本知識，以配合中學古詩文教學的需要。
先修科目：沒有

**EDUC1006 LANGUAGE LEARNING THEORIES AND ENGLISH LANGUAGE TEACHING**
This course provides an overview of the concepts, theories, and research in language
acquisition with an emphasis on second language acquisition. Special attention is paid to the linking of theories with current practices in English language teaching.
Pre-requisite: EDUC1023 and EDUC1024

EDUC1007 LIFE EDUCATION
Life education is to explore the fundamental life issues based on the content of life wisdom. Why do people live? How should people live? How can they live out the values of life? These three fundamental questions about life are the core issues of life education. This course guides students to explore important life values and moral topics through critical thinking and reflection in order to figure out the meaning of life. In addition to the sentiments of humanistic arts, gratitude and service, life education also includes areas like life philosophy, life and death, religious beliefs, moral thoughts, spiritual developments, etc. With systematic exploration and experiences for these important life issues under the framework of East and West cultural thoughts, this course aims to help students construct a world vision, a complete life philosophy and correct values.
Pre-requisite: None

EDUC1008 EDUCATION AND SOCIETY IN MACAO
This course is designed to help students to reflect on the social and education systems of Macao since the foundation of New China in 1949. By applying sociological and political concepts and theories, the course will analyse the discourses and development experiences of Macao. The course materials will be based on the accumulated research findings and publications related to the said period. It is intended to assist students in having a broader and more penetrating understanding of Macao society and its educational system.
Pre-requisite: None

EDUC1009 MULTIMEDIA COURSEWARE DESIGN AND DEVELOPMENT
This course deals with the basic principles and practice of design and development of multimedia courseware based on the latest development in Information Technology. Specifically, participants will identify, analyse instructional problems, design and develop learning environments and courseware aids. Participants are also encouraged to design, develop, implement and evaluate their courseware.
Pre-requisite: None

EDUC1010 PHOTOGRAPHY IN EDUCATION
In contemporary culture, the practice and use of photographs has been vital in everyday life and in education. This course will help students understand some photographic work from the early 19th century to the present day, each of which was taken with a unique approach and perspective. Students will undergo a series of workshops, taking snapshots of everyday life and exploring the role of photography in relation to education and aesthetics in the modern world.
Pre-requisite: None

EDUC1011 WESTERN CLASSICAL MUSIC HISTORY
This course aims at providing an advanced discussion of the styles, characteristics and historical development of the different eras from the 8th century to the 19th century in western classical music history. The focus of the course is on the aesthetic analysis of music literature, famous composers’ masterworks and different compositional styles. Understanding the development of notation will provide students with a better idea of
how musical concepts have influenced the development of characteristics identified in each era in history. By the close of the semester, students will have a solid understanding of the development of western classical music.

Pre-requisite: None

EDUC1012 INDUSTRY OF SPORT, LEISURE AND RECREATIONAL ACTIVITIES - AN INTRODUCTION
Sports and its related development in leisure and recreation attract attention due to its intrinsic connection to personal growth, health improvement and social development. Bidding of mega sport events, building of sport tourism, planting of jogging and bicycle tracks in city, promotion of health related sport projects in community and planning of sport and recreational centres are examples of the contemporary development of sports. This course aims at bringing students basic understandings of sport, leisure and recreation as an industry, with an emphasis on the following strands: structure and organisation; activity types and international development; economic prospects, demand and supply, management, sport market and services; social change and customer behaviour; national, city and community planning; and careers and job nature in the industry of sport, leisure and recreation. The related theories, elements of developmental background and trends are the basic content of the study. Teaching will be conducted from an interactive perspective, with field trips, project works and visits as the major learning activities.

Pre-requisite: None

EDUC1013 EARLY CHILDHOOD DEVELOPMENT
This course will instill into teachers, who work with 0 to 8-year-old children, a thorough understanding of the developmental changes at this stage of life, the roles that genetics play in human development, as well as some common childhood disorders. Different theories of child development will be introduced to provide students with an all-rounded knowledge of children’s united growth, which should lay the foundation for effective teaching and learning in early childhood education.

Pre-requisite: None

EDUC1015 PHYSICAL EDUCATION I - GAMES LEARNING AND FOUNDAamental MOVEMENT EXERCISES FOR CHILDREN
The teaching of physical education contains the study of track and field, gymnastics, ball games, dancing and swimming. Nevertheless, students at the age of 6 to 9 are too young to understand the sport rules, use of equipment and its competitive nature. For this purpose, the teaching of fundamental movement exercises and use of games approach become prevailed practice in helping young children to develop necessary movement skills. The main feature of this course is to help pre-service teachers or children workers to understand the principles of fundamental movement exercises and games teaching in children at junior primary age.

Pre-requisite: None

EDUC1016 APPRECIATION AND TEACHING OF CHILDREN’S LITERATURE
The purpose of this course is to discuss various forms of children literature such as fairy tales, stories and fables, and the connections between children literature and literature education. Students will learn how to write different forms of children literature and improve their writing skills. At the same time, student teachers will learn how to
evaluate the qualities of literatures and become prepared to teach children literary appreciation or engage in creating children literature.

Pre-requisite: None

EDUC1017 THINKING AND LEARNING WITH IT
This course aims to help teacher trainees to create a classroom community in which learning dialogues take place through computers or other associated resources. To achieve this goal, teacher trainees are first expected to review critically the role of computers in enhancing thinking skills and facilitating students’ learning. Evidence from a decade of research is drawn to show how children are engaged in talking and thinking together with computers.

Pre-requisite: None

EDUC1018 TEACHING OF TRADITIONAL CHINESE CULTURE
中國是一個幅員遼闊、歷史悠久、文化發達的國家。傳統文化內容豐富，並充分融合於思想、風俗、生活習慣、思維模式各個領域之中。本課程旨在協助學員透徹了解中華傳統文化的特質與內容，目的在提升在語文課堂中涉及與傳統文化相關的眾多方面的知識時，學員能達致高水平的教學效果。

先修科目：沒有

EDUC1019 TEACHING AND LEARNING NATIONAL EDUCATION
本課程分兩部分，理論與實踐並重。一方面重點介紹現代中國歷史及社會概況，包括新中國成立經過，現今政治、社會、經濟情形，澳門特區基本法等；另方面通過一些課程設計的例子，說明如何把有關材料運用在社會科教育上。

先修科目：沒有

EDUC1020 WAYS OF SEEING: DRAWING AS INQUIRY
Through diverse drawing workshops both in-doors and out-doors, this course introduces students to the various modes and approaches of drawing, from the traditional techniques to some experimental practices. While getting acquainted with different material approaches in drawing, the students will also explore drawing as ways of seeing, building conceptual thinking and visual mapping.

Pre-requisite: None

EDUC1021 QUALITY PHYSICAL EDUCATION
Quality Physical Education (QPE) refers to the effective use of various components to achieve the educational prospects, health conditions and active lifestyle of pupils. The course aims at helping students to understand the nature of QPE, importance of current issues and strategies to enhance the introduction of QPE in school. Student will also have chances to study the theoretical background and develop analytical understanding on related issues such as gender and choice of physical activities, opportunities of learning and behavioral pattern in sport activities. Demonstrations and experimental works in teaching are used as main methods in learning and assisted by cases studies to prepare students with abilities for quality teaching in physical education.

Pre-requisite: None

EDUC1022 THEORIES OF CURRICULUM AND INSTRUCTION (SECONDARY MATHEMATICS)
This course seeks to elucidate evolution of mathematics education in the 20th century
and for the 21st century. Past influential mathematics education reforms affecting mathematics curriculum and instruction are highlighted. Course participants are expected to be conversant with basic theories and principles of mathematics education, and in particular understand the salient characteristics of Chinese learners. They are familiarized with the course rationale, course objectives, content standards, as well as teaching and evaluation recommendations in accordance with contemporary mathematics curriculum standards. Commonly used mathematics textbooks and resources used in Macao’s secondary classrooms are also exemplified.

Pre-requisite: None

**EDUC1023  INTRODUCTION TO APPLIED ENGLISH STUDIES**
This course provides an overview of the basic concepts, scope, and methodology of the science of language in its historical and descriptive aspects. The course covers description of language and language use, essential areas of enquiry in applied linguistics, and language skills and assessment, with examples drawn mostly from English. Students will be helped to see how they can synthesize and apply the knowledge about language to the teaching of English.

Pre-requisite: None

**EDUC1024  INTRODUCTION TO ENGLISH LANGUAGE TEACHING**
This introductory course for English education majors aims to cover a wide range of concepts, issues, and debates relevant to language teaching and learning. It examines language learning conditions and processes and helps students see how language teaching is influenced by the ultimate goals of language learning, learner variables, and other contextual factors. Pedagogical implications link these topics to the teaching of English in Macao school contexts.

Pre-requisite: None

**EDUC1036  WELLNESS AND SPORT PRACTICE**
Physical Education (PE), which is composed of theory and sport practice with individual and team sports, provided a general overview divided into two parts. Part I covers sport relevant theories including the function of sports in life, sports injury prevention & treatment, and physical fitness & exercise prescription while Part II is skill-based practice in both team and individual sports. After completing the PE study, students will not only meet individual need and develop the concept of total well-being, but also can apply and transfer what they have learned to their lifestyle and lifelong activities. Students are expected to achieve general standards in their chosen sports.

Pre-requisite: None

**EDUC1047  THEORIES OF CURRICULUM & INSTRUCTION**
Theories of Curriculum and Instruction provide students with basic principles of modern curriculum and instruction. It aims to improve their professionalism and teaching efficiency in all their working processes, put basic principles into creative practices, set clear objectives, select and organize contents, implement and evaluate curriculums under the guidance of ideal educational values and goals. It also helps to effect leadership in the teaching process, create an exciting learning situation and deeply involve the students in teacher-student interactions with the support of new instruction models, strategies and methods.

Pre-requisite: EDUC1000
EDUC1054  MUSICIANSHIP I
This course aims to develop fundamental knowledge in understanding basic music theory and in note reading, sight singing, and ear training accurately. Rhythmic and melodic dictation and training are also included in the course. Furthermore, piano training will be included, and students will be able to play easy songs with the primary level by the end of the semester.
Pre-requisite: None

EDUC1055  UNDERSTANDING VISUAL CULTURE
The course provides an introduction to visual culture. It is designed to equip students with the basic knowledge for understanding visual culture in the context of Chinese and Western art. Its content includes topics on concepts of perception, visual aesthetics, visual languages and theories, etc. Having acquired basic understanding of how art connects to the world, students are led to appropriate the knowledge to the appreciation and contextualization of the vibrant and diverse visual culture of today.
Pre-requisite: EDUC1060 and EDUC2066

EDUC1060  VISUAL ART I: EXPLORATION AND DISCOVERY
Visual art as a major component of visual culture has the characteristics of inter-/cross disciplinary study which is one of the dominant trends in academic research. The course is designed to equip students with basic art skills as well as teach them ways of seeing and help develop their faculties of imagination and creativity so as to make them capable of discovering art’s existence in life, aiming to provide students with a foundation for art learning. The course will not only lead students to understand different kinds of painting techniques, but also teach and let them use different materials, media and tools to experience art creation in their exploration of its “expressivity”.
Pre-requisite: None

EDUC2000  MORAL EDUCATION
This course aims at introducing theories, principles, and examples of moral education. Topics include: the theoretical framework of moral education, moral education in classic works, character and moral education, citizenship and moral education, religion and moral education, moral education implemented in different educational settings, curriculum guideline of moral education, learning materials of moral education, moral education in various learning areas, and examples of moral education practice.
Pre-requisite: None

EDUC2001  SOCIOLOGY OF EDUCATION
This is an introductory course on the Sociology of Education. It provides a brief introduction to the basic sociological concepts and perspectives. By applying these concepts and perspectives, the course intends to let participants have a broad and profound understanding of Macao society and its educational system.
Pre-requisite: None

EDUC2002  EDUCATIONAL ASSESSMENT
This course is designed to give a fundamental understanding of the major aspects of assessment in the classroom, in education and in society. It sets the stage for educators to develop and conduct assessment in practice. Topics include purposes and principles of assessment, planning the assessment process, choosing and developing appropriate tools. This course covers, but is not limited to, the following basic concepts: formative
versus summative assessment, norm versus criteria reference, high versus low stake
tests, objective versus subjective items, standard setting, item analysis, difficulty and
discrimination index, reliability and validity, etc. After completion of the course,
participants are expected to take reasonable steps to ensure that their tests are of
sufficient quality to give useful results and for making correct interpretations.
Pre-requisite: None

EDUC2003 EDUCATIONAL PSYCHOLOGY
This course aims to give a systematic introduction to the main concerns in educational
psychology, including human development, students’ learning, learning motivation,
instruction and evaluation, and individual differences. Also, this course will emphasise
the application of the related knowledge in educational settings.
Pre-requisite: None

EDUC2004 MODERN CHINESE WRITING AND ITS TEACHING
本科旨在通過有目的的寫作訓練，有效地提高學生書面語言的表達能力；也在於
培養學生審美情趣、發展健康個性，形成健全人格。本科教學內容包括：培養學
生觀察與感受生活能力、閱讀能力、聯想能力和語言能力。此外，並指導學生就
現代中文寫作，編寫教材，採用合適的教學法，以便日後在教學實踐中靈活正確
運用。
先修科目：沒有

EDUC2005 CLASSICAL CHINESE PROSE AND ITS TEACHING I
本科旨在講述中國歷代散文（古文）的意義、特色與演變概況；揭示學習古文的目
的與教育作用；從《昭明文選》、《古文觀止》等古文總集中，擷取自先秦至東漢
各朝代的著名古文篇章，尤其是富有教育意義的為教材，引導學生在課堂講解、
研讀與小組討論，以培養學生對古文的認知，養成閱讀古文的興趣，充實教授古
文的能力。
先修科目：沒有

EDUC2006 CLASSICAL CHINESE PROSE AND ITS TEACHING II
本科旨在闡述中國歷代散文（古文）的朗讀技巧與研習方法；辨析古代散文與現
代散文的區別；從《昭明文選》、《古文觀止》等古文總集中，擷取自魏晉六朝至
明清各朝代的著名古文篇章，尤其是富有教育意義的為教材，引導學生在課堂施
以範文講解、研讀與小組討論，以增進學生對古文的認知，提升研讀古文的興趣，
增強教授古文的能力。
先修科目：沒有

EDUC2007 TEACHING AND LEARNING OF THE GRAMMAR AND
RHETORIC OF LITERARY CHINESE
本科旨在切合澳門現行中學文言教學的內容和要求。教學內容以中學課程教學需
要為導向，講授文言語法和修辭的基本知識，並注重培養學生講授文言語法和修
辭知識的能力。文言修辭與文字、音韻、詞彙、語法、訓詁相關聯，故本科有助
學生提高學生閱讀和欣賞古詩文的能力。
先修科目：沒有

EDUC2008 GENDER AND EDUCATION
This course aims to provide students with an overview of topics, controversies, and positions on the role of gender in education and to examine with students issues, research, theory and policy on gender and education from a historical, political and contemporary perspective. With reference to their personal experiences and observations, students will examine intersections of gender with class and ethnicity in different social mechanisms through which the patterns of educational inequality are changed or reproduced. Students will also discuss implications for gender research in school achievement, peer interaction and socialisation, teacher-student interactions, hidden curriculum, knowledge production and distribution in higher education, divisions in schooling across cultures and teaching as work. More generally, gender effects in socialisation and schooling are analysed for their implications for individuals, society and culture.

Pre-requisite: None

EDUC2009  MEDIA LITERACY AND CITIZENSHIP EDUCATION
This course aims to develop the critical abilities that create literate media consumers. The increasing pervasiveness of Western popular culture via all forms of media around the world has had an immense impact on the ways in which we produce ourselves socially in relation to our own lived experiences and desires, together with how these identities may be perceived by others in relation to their own practices of consumption. In this context, this course will consider the wider pedagogical implications of popular culture in terms of the production and distribution of media texts and how we consume and respond to them.

Pre-requisite: None

EDUC2010  NURTURING TALENTED AND CREATIVE LEARNERS: KNOW-WHAT, KNOW-WHY AND KNOW-HOW
The course introduces structures, functions, power and plasticity of the human brain, emphasising the interplay between nature and nurture for the lifetime development of the human mind. Based on recent advances in biology, cognitive psychology, neuropsychology and anthropology, contemporary intelligence and creativity theories (e.g. theorists like Sternberg, Gardner, Csiksentmihalyi, amongst others) are then expounded. A century of assessment research on intelligence and creativity will be elucidated, highlighting the major paradigm shifts therein. Participants are empowered to design environments and activities undertaken within cultural contexts for nurturing talented and creative learners in the 21st century.

Pre-requisite: None

EDUC2011  ENLIGHTENED EARLY CHILDHOOD EDUCATION IN CHINA
本科旨在講解中國歷代啟蒙教育（兒童教育）的意義與時代作用；揭示歷代啟蒙教育的發展概況，介紹歷代著名啟蒙教材，如《三字經》、《百家姓》、《千字文》、《千家詩》、《弟子規》、《聲律啟蒙》等，引導學生研讀與討論，從而探討啟蒙教育的教學目標、教學理論、教學方法，藉以古為今用，推陳出新；並養成學生對啟蒙教育的認知與興趣，充實教授啟蒙教育的能力。

先修科目：沒有

EDUC2012  HISTORY OF EDUCATION IN THE EAST AND THE WEST
This course aims to discuss the important events, educational thoughts and systems in the history of education in China and the West. The related political, social, economic and cultural contexts will be analysed for an interpretation of the background and development of each era and stage in history. This course will allow students to understand how educational activities evolved in history and to learn from the experiences and thoughts advocated by educators in the past.

Pre-requisite: None

EDUC2013 HEALTH CARE AND MASSAGE IN PE AND SPORTS
This course, which combines medical health care with exercise science, offers the basic knowledge as well as the skills essential for the prevention, evaluation and treatment of common injuries in the care of physically active individuals. Topics such as physical measures, medical supervision in sports, hygiene in youth and females, prevention and treatment of sports injuries, sports massage and medical sports will be introduced. This class also emphasises hands-on experiences and the need for students to develop their practical skills. Upon completion of this course, students should be able to become familiar with the concepts and basic medical knowledge relevant to sports, to know how to prevent and treat common sports injuries and to apply what they have learnt in physical fitness and ways of recovery from exercise fatigue.

Pre-requisite: None

EDUC2014 PSYCHOLOGY OF ADOLESCENTS
This course aims to help educators understand the characteristics of adolescents from psychological points of view. It covers the following topics: the emergence of adolescence, classic and contemporary theories, physiological and sexual development, intellectual and cognitive development, self-concept and identity formation, emotional adjustment, moral development, peer and friendship group, socialised anxiety, views on work, life, marriage and family, and adolescent problems related to parenting, schooling and social change. Lectures, group discussions, reading assignments and research projects are employed to equip pre- and in-service teachers with professional insights into the psychological well-being of teenagers (aged 10 to 18, senior primary to high school years).

Pre-requisite: None

EDUC2015 YOUTH CULTURE
This course aims to provide students with a variety of perspectives on youth culture so that students could have a better understanding of not only activities of the youth but also how the youth and their activities are represented and thus perceived by the general public. Students will be engaged in debates over how youth culture is interpreted. How far could it be seen as part of national culture, although it seems peculiar to a particular age group of a nation? How far could youth culture be seen as a subculture? And, if so, in what ways should youth culture be regarded as deviance, mass culture, resistance (or counter-culture), or a social movement? And how do capitalism and globalisation impact on youth culture? Relevant concepts and theories will provide students with insights into examining youth culture in Macao and evaluating existing Macao youth policies.

Pre-requisite: None

EDUC2016 INTRODUCTION TO CLASSICAL WORKS AND ITS TEACHING
本科對四部（經、史、子、集）作綜合性的講述和介紹，選擇若干重要的古籍作進一步評析，增強學生閱讀古籍的基本知識，並教授學生如何把所學知識靈活運用在教學中，以便將來教學實踐有幫助。

先修科目：沒有

EDUC2017  TEACHING WRITING AND CHINESE CULTURE
本科旨在協助學生了解進行寫作教學的基本原則和方法，認識與寫作教學有關的中華文化內涵，通過教導寫作與中華文化之關係，使學生明瞭如何提升寫作技巧和內容，為日後在中學教授中文課程作出準備。

先修科目：沒有

EDUC2018  SUBJECT-BASED TEACHING METHODS I (ENGLISH)
It is so designed as to equip student teachers with the essentials of English language teaching and to develop their abilities to teach effectively at the secondary school level through reflecting upon theory and practice. It aims at familiarizing them with major ELT approaches, the techniques and strategies of integrated teaching and communicative skills, materials development and the use of multimedia aids and various resources to enrich, enliven and innovate teaching and learning.

Pre-requisite: EDUC1023 and EDUC1024

EDUC2019  SUBJECT-BASED TEACHING METHODS II (ENGLISH)
It is so designed as to equip student teachers with the essentials of English language teaching and to develop their abilities to teach effectively at the secondary school level through reflecting upon theory and practice. It aims at familiarizing them with major ELT approaches, the techniques and strategies of integrated teaching and communicative skills, materials development and the use of multimedia aids and various resources to enrich, enliven and innovate teaching and learning.

Pre-requisite: EDUC2018

EDUC2020  FOCUSED ENGLISH SKILLS FOR ELT TEACHERS: SPEAKING
This course is designed for FED students in the English stream and will cater to the needs of prospective English teachers in their professional lives, i.e. to read aloud teaching materials accurately and fluently, maintaining the interest of a second language learner audience and communicating meaning adequately in the process; to give lectures and produce spoken language with structures that are grammatical and generally adequate despite occasional errors; and to interact with peers in a group discussion, keeping the discussion focused and using conversational strategies effectively. There will be three focus areas in this course: (1) reading aloud English teaching materials including poems and prose passages; (2) giving short speeches or mini lectures such as recounting an experience or presenting arguments; and (3) engaging in professional interaction about content knowledge/subject matter knowledge. Students coming to this course will raise their awareness to the common English pronunciation problems of Cantonese speakers. They will also be given models of accurate pronunciation and ample practice opportunities to improve their English pronunciation, interaction strategies and oral communication skills.

Pre-requisite: EDUC2018 and EDUC2019

EDUC2021  ENGLISH LINGUISTICS AND LITERATURE AS RESOURCES
FOR TEACHERS
This course is not a course on linguistics analysis; nor is it a course on criticism of literary studies. In other words, this course is not intended to teach students how to study literature – either from the stylistics or the literary critical viewpoint. Rather, this is a course for prospective teachers and aims to introduce to them the possibilities of using literary texts as a resource for stimulating language activities. The course will examine the justification for using literary texts in language classrooms and will provide samples of classroom materials which are designed for engaging students interactively with the given literary texts, with fellow students and/or with the teacher, in the performance of tasks involving these texts. While this course aims at enriching student teachers’ knowledge in the use of literary materials in language classrooms, it will also provide them with hands-on experience in the design of tasks for language teaching and learning.
Pre-requisite: EDUC2018 and EDUC2019

EDUC2022  TEACHING READING AND WRITING
This course will examine the theoretical bases for reading and writing in the light of current perceptions of the processes and strategies involved in these skills and will explore recent developments and models of second language reading and writing as well as the pedagogical impact of these developments. The course will also integrate theory and practice and discuss how to teach English reading and writing lessons in Macao classrooms.
Pre-requisite: EDUC2018 and EDUC2019

EDUC2023  TEACHING SPEAKING AND LISTENING
This course will review the theories and approaches related to speaking and listening and analyses the different processes and strategies that speakers and hearers use as they speak or listen. The course will also examine the pedagogical approaches to teaching speaking and listening and the design and planning of speaking and listening lessons in Macao classrooms.
Pre-requisite: EDUC2018 and EDUC2019

EDUC2024  TEACHING GRAMMAR AND VOCABULARY
This course will examine relationships between grammar, meaning and context and the role of vocabulary knowledge in language learning. It will also identify issues and problems in teaching and learning English grammar and vocabulary and discuss how to plan and teach grammar and vocabulary effectively in Macao classrooms. In addition, strategies for helping learners gain control over systems of English grammar as well as learner strategies in acquiring English vocabulary will be explored.
Pre-requisite: EDUC2018 and EDUC2019

EDUC2025  TEACHING FUNDAMENTAL MOVEMENT SKILLS FOR YOUNG CHILDREN
The course introduces the theories about the development of physical and motor movement in early childhood, to know the foundations for teaching of movement for student teacher to develop child’s movement skills and gross motor learning and to plan movement activities and lessons for fun. The primary purpose of the course is enable students to apply principles of child motor development and learning to plan Physical activities. It will prepare students to teach, organize and manage different activities, make groups, demonstrate skills (locomotors, gymnastics and rhythmic movement) and
give feedback to young children to enhance their motor skill and movement experience.
Pre-requisite: CPED1001 and CPED1002

EDUC2026  TEACHING OF CHINESE IN KINDERGARTEN
本課程旨在让學員認識語文學習對幼兒發展的重要性，掌握中文語文活動的教學原理、方法及發展趨勢，並學會根據幼兒不同發展階段的需要，提供不同的語言教育。期望學員能透過本課程學會如何引起幼兒對學習語文的興趣，以及全面提高幼兒聽、說、讀、寫的能力。此外，學員亦能學會評鑑幼兒語文教學之模式，及檢視如何利用不同的資源及方法教授幼兒語文能力的發展。
Pre-requisite: None

EDUC2027  YOUNG CHILDREN’S MATHEMATICAL ACTIVITIES
Mathematics has always been taken seriously by educational institutions as an important discipline. In fact, mathematical concepts exist in our everyday life. The aim of this course is to introduce teaching principles and strategies that facilitate 0 to 8-year-old children’s mastery of some basic mathematical concepts. It also attempts to illustrate ways to make children understand the relationship amongst simple mathematical concepts and the connection of these concepts to their everyday experiences as well as ways to foster children’s interest in mathematical thinking through integrating mathematics into an overall design in curriculum and instruction.
Pre-requisite: None

EDUC2028  INTEGRATED CREATIVE ACTIVITIES
This course will examine the theories of creative thinking, provide students with a deeper and broader view of creative activities and enable them to put theory into practice in their everyday life and teaching. The content will also cover the development of children’s creativity, the essential elements in creative thinking, and applications of the principles of teaching for creative thinking, expression and experiences.
Pre-requisite: None

EDUC2029  PLAYING AND LEARNING
Human beings were born with the ability to play, an instinctive competence which facilitates our learning. Children’s play is often mistaken as time-wasting and indulgence and its role in learning have often been neglected. The aim of this course is to re-shape students’ understanding of play, especially free-play, and to highlight the value of play in children’s growth and its functions in learning. It will also explore different types of play and analyse their roles in children’s learning and development from various perspectives, re-state teachers’ role in children’s play, as well as demonstrate the relationship among play, personality and the realisation of children’s potentials.
Pre-requisite: None

EDUC2030  PARENTAL EDUCATION AND INVOLVEMENT
Family plays an important role in the child’s upbringing. The course aims to explore how we, as teachers, can empower the parents to play a role in the positive development of the child. Emphasis is put on possibilities and strategies concerning the implementation of parent education and parental involvement in the local school context. Topics include: integrated approach to building staff-parent partnerships, family relationship and personal growth, disciplining methods and principles, parental
ethics, development and implementation of parent education, and family-school collaboration.
Pre-requisite: None

EDUC2031  CREATIVE PHYSICAL ACTIVITIES AND EQUIPMENT FOR YOUNG CHILDREN
The course aims to introduce the tried-and-true guidelines for students to explore child body awareness and physical movement with four basic movement concepts (body, space, effort, relationship) and their elements. It will also help students to create and modify equipment for enriching the learning environment. Students will learn how to apply the methods of integrated learning in lesson planning and teaching/learning activities.
Pre-requisite: None

EDUC2032  MOVEMENT PROGRAMME FOR YOUNG CHILDREN
This course helps students to understand the importance of movement for the different aspects (physical, affective and cognitive) of child development. The course gives equal stress on theories and practice. It enables student to put knowledge into practice through engaging in group discussion, planning movement station lessons, and designing movement programmes.
Pre-requisite: EDUC2025

EDUC2033  PRIMARY MATHEMATICS TEACHING SKILLS AND PRINCIPLES
This course aims to develop basic skill and theory for primary mathematics education.
1. Mathematically speaking skill and Mathematical language training
2. Introduction Design in mathematics teaching
3. Writing skill and Design
4. Assessment skill: Error Analysis
5. The reasoning principle and application
6. The student-centered design principle and application
7. The principle and applications from concrete to abstract principles
8. The principle and Application of the step-by-step principle
Pre-requisite: None

EDUC2034  THE DEVELOPMENT OF MATHEMATICS INTEREST, CONCEPTS, AND KEY IDEAS FOR PRIMARY MATHEMATICS
This course aims to develop basic mathematics knowledge and basic ability in mathematics for primary teachers.
1. Interest cultivation of primary mathematics
2. The development and training of proper mathematics problem solving habits
3. The development and training of Mathematical Beauty
4. The development and training of calculation ability
5. The development and training of Problem Solving
6. The development and training of geometric thinking and spatial concepts
7. The development and training of data collection, collation and description
8. The development and training of Algebraic Thinking
Pre-requisite: None

EDUC2035  CHILD DEVELOPMENT
In individual’s interpersonal relationship, thinking and learning abilities, as well as conceptions of the world of children in middle childhood (primary school children) are in many ways different from those in their early childhood. This course aims at enhancing in- and pre-service primary school teachers’ understanding of this age group, in particular, their psychological changes. The contents will cover objective analyses of the different aspects illustrated with the research directions of this life period.

Pre-requisite: None

EDUC2036  PHYSICAL EDUCATION II - SPORT EDUCATION AND EXERCISES HABIT DEVELOPMENT FOR YOUNG ADOLESCENT
Students in upper level primary are more mature to handle different sport activities. This programme emphasizes the learning of how to teach athletic and ball games to upper primary school students. Modified sports activities and systematic learning are the major contents in teaching with purpose to assist the development of exercise habit in activities. In this course, the developmental sequences of athletic activities and ball skills are introduced. Relevant background knowledge, game complexity and transfer, games sense, curriculum arrangement, assessment format, rules and regulations and safety measures will be covered to assist the teaching and learning of different sport activities.

Pre-requisite: None

EDUC2037  INTEGRATED ACTIVITY TEACHING AND DESIGN FOR PRIMARY EDUCATION
The course aims to introduce participants the rationale of Integrated Activity Teaching and Design for Primary Education. At the end of the course, participants are able to plan and design integrated curriculum and activity according to the ability, interest and necessity of primary students. As there are differences in adapting the integrated concept in Chinese and English teaching and if there is an available of suitable colleagues, students will be divided in groups of Chinese and English in programme learning.

Pre-requisite: None

EDUC2038  ELEMENTARY MATHEMATICS TEACHING & RESEARCH
All over the world, students encounter persistent difficulties (both cognitive and affective) in their learning of some elementary mathematic topics (e.g. fractions, negative numbers, solving word problems, mathematical proofs). Course participants will be studying empirical research reports of relevant teaching experiments that aim to help students overcome these learning difficulties. Under the instructor's guidance, course participants are expected to devise or revise lesson plans in light of research findings and to engage in reflective action research so as to relate theory with practice.

Pre-requisite: EDUC1000

EDUC2040  DESIGN AND ANALYSIS OF LEARNING MATERIALS FOR ELEMENTARY SOCIAL STUDIES
The contents of elementary social studies involve broad knowledge areas, mainly including the simplified concepts and facts of different disciplines in social science. This course aims at introducing the scope and key ideas of elementary social studies, and helping learners to understand how to use some principles and techniques to design and analyze various kinds of learning materials for elementary social studies.

Pre-requisite: None
EDUC2041 ENGLISH GRAMMAR
The course aims to help students to understand how English grammar works. It also introduces the techniques they need to analyse English grammar. The course will simultaneously prepare students for further linguistic study.
Pre-requisite: None

EDUC2042 ENGLISH PHONOLOGY
The course examines descriptively the phonetics and phonology of contemporary English. The major accents described are the British one known as “Received Pronunciation” (RP) and General American (GA) while other accents will be compared where necessary.
Pre-requisite: None

EDUC2043 THE RESEARCH OF THE TEACHING CHINESE IN MANDARIN CHINESE
本課程旨在探討幼兒與小學教育階段“普通話課程/教材”或“用普通話教授中文課”可能遇到的相關問題。教授學生掌握普通話語音、語法、詞彙和修辭等知識，培養學生運用普通話教學的能力, 介紹普通話在幼兒與小學教育階段課程與教學上的運用，並分析普通話教學中常見的問題與解決之道。本課程適合想從事學前及小學教育工作的學生選修。
先修科：沒有

EDUC2044 GUIDED CHINESE READING AND WRITING
This course is designed to equip pre-service student teachers with the knowledge and skills of Chinese teaching. The contents include an overview of the development of reading and writing instruction theories, a variety of teaching strategies, and also the appreciation and creation of different texts. In addition, integrated reading and writing activities will also be arranged to facilitate teaching and learning. The main teaching strategies applied in this course are instruction, modeling, cooperative learning, investigative learning and problem based learning.
Pre-requisite: None

EDUC2045 TEACHING OF PHYSICAL EDUCATION
The course aims at helping students to understand the importance of teaching physical education in school and process in attaining the expected goal in education. Mosston’s Teaching Spectrum and approaches in Games Learning will be introduced. Students will have chances to learn about various principles and methods in teaching, motives in learning, curriculum planning, evaluation and assessment, safety issue and development of health-related fitness in children. The principle of Discrete Trial Training (DTT) will be adopted. The purpose is to assist students’ professional build-up of knowledge in games teaching in children with simple but structured and connected trials.
Pre-requisite: EDUC1015 or EDUC2036

EDUC2046 TEACHING OF MUSIC: ELEMENTARY GENERAL MUSIC METHODS
The course is the continuation of Musicianship I and Musicianship II and aims at the development of students’ knowledge in teaching music at primary school. It includes
advanced music theory and sight reading training. Students are expected to familiar with the knowledge and apply in their music teaching. Besides, advanced piano accompaniment will also be included in the course. The teacher will introduce the textbooks and curriculum standards from several nations so that students will have global prospective of music teaching. Furthermore, the most leading music method, Orff Music Method, will also be introduced in the course. Students will be expected to familiar with the concepts of this method and apply it in their music teaching. At last the music assessment will be used in the course so that students can understand their own progress from teacher, peers and themselves. The evaluations can also be used as an effective assessment methods for their future music teaching.

Pre-requisite: None

EDUC2047 GUIDED READING AND TEACHING OF CHINESE PROSE AND POETRY

本課程簡介詩詞、散文的特點、發展，選讀不同時代的一些重要詩文作品，以提高學生對中國文學作品的欣賞、理解、分析能力，並加強對中國文化的認同感，並教授學生如何蒐集相關的詩文材料，編寫教材，選用適當的教學法，以便將來能在教學實踐中靈活正確運用。

先修科目：沒有

EDUC2049 SUBJECT BASED TEACHING METHODS (SECONDARY MATHEMATICS) I

This course focuses on empowering course participants to write teachable lesson plans and programme of study pertaining to three key domains of secondary mathematics curriculum: elementary expressions and functions depicting changes and relationships; and coordinates, synthetic and dynamic geometry; special topics of mathematical investigations. Due attention is paid on professional treatment of a number of issues that have a bearing on successful meaningful student learning: educational objectives in accordance with key stages of secondary education; mathematical literacy, competencies, and thinking underpinning various pedagogic and instructional models; history of development of mathematics in different cultures; psychology of mathematics learning, particularly for Chinese learners and different gender; use of calculators and ICT tools for mathematics education; and good balance of assessment o：f learning and assessment for learning.

Pre-requisite: EDUC1000

EDUC2050 ELEMENTARY MATHEMATICS TEACHING AND RESEARCH

Around the world, students encounter persistent difficulties (both cognitive and affective) in their learning of some elementary mathematics topics (e.g. fractions, negative numbers, solving word problems, mathematical proofs). Course participants are empowered to study empirical research reports of relevant teaching experiments that aim to overcome these learning difficulties. Under guidance, they are expected to devise or revise lesson plans in the light of research findings and engage in reflective action research so as to relate theory and practice underpinning the teaching experiments.

Pre-requisite: EDUC1000

EDUC2051 CHINESE HISTORY CURRICULUM AND TEACHING I

本科旨在介紹中學中國歷史科課程，以及與課程有關之教學方法，而中國歷史發
This course provides students with an overview of the curriculum and teaching of the secondary school Chinese history. Through a systematic introduction to historical events, they are expected to become competent history teachers.

Pre-requisite: None

EDUC2052 CHINESE HISTORY CURRICULUM AND TEACHING II
本科旨在介绍中学中国历史科课程，以及与课程有关之教学方法，而中国历史发展过程，亦会涉及，使学生能应付日後在中学教授中国历史课程之用。This course provides students with an overview of the curriculum and teaching of the secondary school Chinese history. Through a systematic introduction to historical events, they are expected to become competent history teachers.

Pre-requisite: None

EDUC2055 VISUAL AND PERFORMING ARTS - VISUAL ART
Artworks of different genres have been delighting people from all ages and all places. We enjoy their beauty and their articulation, but we know nothing or very little about their creation process. The practice of aesthetic appreciation of art not only enables us to enjoy art through deeper understanding of the works, but also enables us to recognize and realize our creative potential and capability, as well as cultivates and broadens our vision of artistic culture. The course will be taught in two parts: Firstly, Introduction to visual and performing arts, which includes common lectures on What is Art? Art and Culture, Understanding Art Genres, Approaches to Art Appreciation. Secondly, Introduction to Visual Arts Appreciation, which includes lectures designed to equip the students with basic knowledge of the different visual art forms and teach them how to appreciate and interpret such artworks by illustrating the relationship between form/style to theme/culture. Masterpieces from different regions/places reveal not merely local colors, but also profound cultural contents, echoing profound problems of life for seeing and understanding the world.

Pre-requisite: None

EDUC2056 VISUAL AND PERFORMING ARTS - DRAMA
This course is composed of two major components, art introduction and drama performance. This course acquaints students with vocabulary and concepts for critiquing and analyzing visual and performing arts; it examines the function of arts from social and global perspectives; and it encourages students to develop judgment in visual and performing arts’ analysis and criticism. Students will gain an overview of the historical movements and ideas in different forms of arts across eras and cultures. In the drama performance component which follows, students will be introduced to the form and function of dramatic literature in its relationship to theatrical performance. Study of plays as texts leads into the rehearsal and performance of short plays.

Pre-requisite: None

EDUC2057 VISUAL AND PERFORMING ARTS - MUSIC
The music course aims to provide fundamental knowledge of music to all UM students so as to encourage them to experience and enjoy music in their lives. This introductory course of music covers scopes of both Western and Oriental music which include their historical development/styles, musicians and their composition/performance. Traditional academics focus mainly on Western music. However, in this era, world music is gaining more attention than before as the concept of globalization is getting its
role. Therefore, this course covers one-third of contents in Oriental music. The general
education of music helps students to appreciate and enjoy music listening with
comprehension. As the result, students’ attitude and experience toward arts enhanced
and elevated.
Pre-requisite: None

EDUC2063 MUSICIANSHIP II
This course is the continuation of Musicianship I. It aims to develop knowledge in
understanding intermediate music theory, sight singing, and ear training accurately.
Besides, in order to follow the international trends of music teaching, recorder training
will also be included in the course. Students are expected to be able to play elementary
recorder songs by end of the semester. Furthermore, piano training will continue to be
included and students will be able to play songs with the intermediate level by end of
the semester. At last, the teacher will analyze several different music text books from
the great China regions, such as, Macao, Hong Kong, Taiwan and China in order to
to better prepare students a global perspectives and understanding in music teaching.
Pre-requisite: EDUC1054 or equivalent (by audition)

EDUC2064 TEACHING OF MUSIC I
This 1.5 credit hour course aims at equipping students with knowledge and skills of
teaching music at pre-primary level in Macao background. Students will learn some
basic concepts of music teaching including principle of preparing lesson plan, and
techniques of designing and demonstrating music elements incorporated in activities.
Pre-requisite: EDUC1054

EDUC2065 TEACHING OF MUSIC II
Based on the prior 1.5 credit hour course experiences, students in this course will
explore further on some popular music education theories. Students will have more
chances to demonstrate teaching music creatively with proper musical language. These
include selecting and editing good music literature as material, creating rhythmic
movement and instruments for kids, and building their own music library for long-term
teaching, etc.
Pre-requisite: EDUC2064

EDUC2066 VISUAL ART II: THEORY AND PRACTICE
Visual art as an articulate form of visual culture is capable of displaying the dynamic
cultural relationships between/among different academic disciplines and life domains.
Its products are not merely “decorations” to please the eyes; they respond to life’s
profound problems through expression of their creators’ cultural, historical, and life
concerns. The course aims not only to familiarize students with the languages of
traditional and contemporary Chinese and Western visual arts, but also to help them
explore the relationship between visual art and life through art practice, leading them
to understand the beauty, style and culture of art through experimenting with different
media and techniques.
Pre-requisite: EDUC1060

EDUC2067 TEACHING OF VISUAL ART
The course provides students with an opportunity to understand visual art education in
both local and global contexts. While studying curriculum design and the diverse modes
of teaching in visual art (interactive, integrative and interdisciplinary), students will
also be led to examine the role of visual art in education and given an opportunity to design a curriculum in visual art education.
Pre-requisite: EDUC1060

**EDUC3000 INTEGRATING IT INTO TEACHING AND LEARNING**
The aim of this course is to equip the students with the latest theoretical knowledge in multimedia learning, practical skills on computer tools, and a critical understanding of the application and value of IT in teaching and learning so as to allow students to implement, integrate and manage IT in their actual classroom environment.
Pre-requisite: None

**EDUC3001 EDUCATIONAL ADMINISTRATION**
This course allows students to understand the basic concepts of educational administration. Students will study and discuss Macau educational acts and decrees. They will also learn the basic theories related to educational administration, such as theories with regard to motivation, leadership, communication and organizational decision-making. Attempts will be made to make this course related to the educational reality in Macau.
Pre-requisite: None

**EDUC3002 EDUCATIONAL RESEARCH**
The main aim of this course is to enable a qualified teacher to use, understand, analyze and evaluate research outcomes. The course includes: (1) the basics of educational research, (2) structure and procedures of education research, (3) research variables, (4) hypotheses and topics, (5) literature review, (6) on-line search, (7) sampling, (8) questionnaires, (9) correlation analyses, (10) interviews, (11) case studies, (12) evaluation of research reports, (13) educational research ethics, etc.
Pre-requisite: None

**EDUC3003 INTRODUCTION TO SPECIAL EDUCATION**
This course is designed to provide an introduction to the characteristics of children with special needs or disabilities. Emphasis will be put on several types of children with special education needs—learning disabilities, emotional and behavioural disorders, attention deficit and hyperactivity, autism, and mild intellectual disability. This course also provides some practical guidelines on how to teach in inclusive classrooms.
Pre-requisite: EDUC1000 and EDUC2003

**EDUC3004 INTRODUCTION TO SPECIAL EDUCATION**
This course helps students to understand more about children with special needs. It introduces the definitions, causes, characteristic and categories of the disabilities in early childhood. The content will also cover instructional theories, principles and tactics, assistance methods, IEP and programme planning, assessment for children with special needs, and positive attitude. Through this course, students will be able to help these children more effectively with early intervention or special education programmes to assist their potential developments. In addition, students will be taught how to make use of the pre-school and school-age special education measures and services in Macao in order to help those children and their families, and they will understand the effects and importance of parents’ and professional teams’ participation in the education of children who have special needs.
Pre-requisite: EDUC1000 and EDUC2003
EDUC3005  CLASSROOM MANAGEMENT (SECONDARY)
This course is designed to give students a broad overview of classroom management, including its base in theory, application in practice and implication. At the theoretical level, topics include different approaches to class management, establishing effective rules and procedures and classroom management systems. At the application level, topics include managing individual student behaviour, managing behaviour in a variety of instructional formats and examining the causes of and solutions to disruptive and noncompliant behaviour and classroom management problems that are within the control of the classroom teacher. The goal of the course is to help students develop their own approach to build an inclusive, productive and well-structured learning environment conducive to high levels of student support and accomplishment.
Pre-requisite: EDUC1000 and EDUC2003

EDUC3006  TEACHER ETHICS AND TEACHER PROFESSIONAL DEVELOPMENT
The aim of this course is to prepare students to develop teachers’ professional morality. After that, they can give their students ‘whole-person’ education by integrating teachers’ instruction, their model and their environment. The experience and the development of teacher’s professional morality are fully represented in the different relationships in their work, including facing themselves, their colleagues, students, students’ parents and society. The content of this course includes learning different principles of teachers’ professional ethics, and how to use and develop these theories reasonably in their teaching lives.
Pre-requisite: None

EDUC3007 & EDUC3008  SUBJECT-BASED TEACHING METHODS I & II (CHINESE)
本課程旨在將理論與實踐結合，使學生增加和深化中文教學專業知識。掌握教學理論和方法，因應不同情況，採用適當方式，引導他人用心學習。
先修科目：沒有

EDUC3009  THE TEACHING OF CHINESE POETRY, LYRIC AND VERNACULAR SONGS
本科旨在講授中國古代韻文——詩、詞、曲——的意義、特點、形式與異同；以唐宋詩詞、元曲為主要教材；就作品的題材、意境、情韻、寫作技巧等詳加闡釋，引導學生賞析與研習；促使每個學生寫作詩、詞、曲各一首，並在課堂上演示，以收理論與實踐相結合之效，藉以培養學生教授詩、詞、曲的學養，以及日後擔任教師的教學能力。
先修科目：沒有

EDUC3010  HISTORY OF CHINESE THOUGHTS AND EDUCATION
本科旨在使學員掌握中國思想的基本特質和義理及其與教育的關係。教學重點包括：先秦儒家思想、墨子思想、法家思想、老莊哲學、兩漢思想、隋唐佛學和宋明理學。本科並著重探討如何把傳統中國思想經過批判的繼承與創造的詮釋，使之能與教育思潮進行檢討與反省。
先修科目：沒有
EDUC3011  EDUCATIONAL POLICY AND PRACTICE IN MACAO
This course aims to broaden and deepen students’ understanding of the Macao education system from a policy study perspective. Students are provided with analytical tools to comprehend and examine educational policies and their implementation from the political transition period to the post-1999 era. The course begins with a brief historical background of developments in Macao, and the empirical analysis of policies will commence with the 1991 Law 11/91/M and extend to the post-1999 Chief Executive Annual Policy Address.
Pre-requisite: None

EDUC3012  CIVIL EXAMINATION AND TRADITIONAL EDUCATION IN CHINA
科舉制度是設立科目進行考試、用以選拔官吏的制度，實行共約一千三百年，對中國政治、經濟和社會各層面產生深刻的作用。到了清末，隨著西力東漸和國力不振的環境下，科舉制度終於被新式學堂所取代。學員在完成本課程後，對科舉與中國教育的緊密關係將能更全面地把握，並明瞭其對中國教育所造成的巨大影響。本課程亦就科舉制度與中國政治、社會流動、廢科舉興學堂的過程和影響予以深入探討，讓學員瞭解中國社會文化變遷的核心因素。
先修科目: 沒有

EDUC3013  ASSESSMENT IN SCIENCE EDUCATION
Formative classroom assessment advances learning by providing feedback to teachers and students about learning attainment. The course focuses on how evidences of learning can be collected through classroom formative assessment and evaluated by teachers for instructional purposes. Students will explore new assessment approaches capable of collecting data on learning across STEM content areas and Bloom’s cognitive levels. The class will explore new information infrastructures that support student learning and classroom assessment. The roles of teachers and learners in supporting assessment of this kind will be discussed.
Pre-requisite: None

EDUC3014  I MUSIC: MUSIC, ME, & THE SOCIETY
'I Music' means each participant (student) will make music. The course applies socio-cultural and psychological perspectives to present music as functional art as well as all-time media for connecting the self and the society. Students are encouraged to explore, identify, and analyze various forms of musical events that occur in their daily lives and their community. To enforce critical thinking on music’s role in the students’ personal and social lives, an interactive approach is used, including singing favorite songs or playing instruments, to introduce views of personality and culture, visiting local performing groups/musicians to nurture potential musicians, debating controversial views of music from research findings, and attending concerts. Afterward, each student conceptualizes the richness and power of music in human lives and in the globe.
Pre-requisite: None

EDUC3015  ANCIENT HISTORY TEACHING IN CHINA
本科以培養學員掌握中國古代傳授和傳播歷史知識和觀念的活動為重心。課程以中國歷史教育發展的興衰為主線，並就歷史教材與歷史讀物、門閥政治與歷史教育、科舉考試與歷史教育、蒙學教育與歷史教育等方面作出較深人的探索。在完成本課程後，學員將對歷史教育的價值與貢獻有更全面的認知。
EDUC3016 LITERATURE, HISTORY AND READING
本科旨在協助學生了解文史基本範疇相關知識與閱讀教學之關係，使學生明瞭閱讀教學之要點，認識如何在文史基礎上配合閱讀教學，為日後在中學教授中文課程作出準備。
先修科目：沒有

EDUC3017 MODERN AND CONTEMPORARY CHINESE LITERATURE AND ITS TEACHING
本科在於通過教學，使學生掌握中國現當代文學發展的過程；瞭解其間部分重要作家的創作概況；熟悉並掌握他們代表作的思想及藝術特色；要求學生通過分析評述，提高對現當代文學作品的評判和鑑賞能力，加深學生對中國優秀文化的認識和理解。本科主要教授中國現當代重要作家的著名作品。此外，並指導學生就該等作品，編寫教材，採用合適的教學法，以便日後在教學實踐中靈活正確運用。
先修科目：沒有

EDUC3018 SOCIO-CULTURAL ASPECTS OF ENGLISH LANGUAGE TEACHING
This course deals with the social, political, and cultural dimensions of English language teaching. It aims at developing among the students an understanding of the socio-cultural situatedness of ELT pedagogy and associated political dynamics, the international spreading of English and its impacts, and the role of intercultural competence in successful language learning. Topics to be covered include language identity, World English, globalisation and localisation related to ELT, and sociolinguistic relativity and causes of miscommunication.
Pre-requisite: EDUC1023 and EDUC1024

EDUC3019 CREATIVE IDEAS IN THE ENGLISH LANGUAGE CLASSROOM
This course will first review the different stages of an English language lesson and the steps and procedures for teaching the four skills, grammar and vocabulary. While building upon students’ existing knowledge of language teaching and introducing to them categories and samples of creative activities that encourage ESL/EFL learners’ fluency, flexibility, elaboration and originality, the course aims at cultivating in students the concept of creativity in language teaching and developing their competence in designing English lessons with creative ideas and fun but without sacrificing the important element of meaningful practice of target language items. The course will provide students with hands-on experience in planning and conducting creative English lessons through the development of teaching plans and micro-teaching.
Pre-requisite: EDUC2018 and EDUC2019

EDUC3020 SOCIAL AND CULTURAL ACTIVITIES
Based on the best practices in early childhood education, the course aims to help students understand the importance of the social domain in the kindergarten curriculum. Through this course, students will learn the designing of social and cultural activities, study the teaching and learning strategies in this area, and master the methods of helping young children develop social awareness and social competence in a democratic, culturally diverse and interdependent world.
EDUC3021 HEALTH AND CARE FOR YOUNG CHILDREN
Childhood is the earliest, most vulnerable and difficult nursing stage and also the most important stage in our lives. This course will equip students with the knowledge and understanding of children’s growth, health and care, the foundation of the pre-primary education field. It will introduce how to provide children with appropriate nutrition and how to handle their common diseases, injury and safety. Topics include principles of children’s growth, their behavioural and emotional characteristics, analysis of the positive and negative factors and ways to provide a safe and healthy environment for growing children. Students can apply the theories and knowledge in kindergartens to promote health education and to work towards the goal of holistic health and care.
Pre-requisite: None

EDUC3023 EDUCATIONAL TECHNOLOGY IN EARLY CHILDHOOD EDUCATION
This course aims at enhancing teacher trainees’ understanding of various applications of educational technology, so as to empower them to use technology effectively in kindergartens. It provides an overview of the latest development of technology for teaching and learning, with an emphasis on its use with appropriate instructional designs in the early childhood education (ECE). To achieve this end, this course will examine how to integrate instructional methodology with contemporary educational technology within ECE learning contexts and how to fulfil the objectives of the ECE curriculum based on instructional models. After completion of the course, teacher trainees will be able to integrate educational technology in supporting young learners' development in different disciplinary areas, resolve issues arising in this process and take up related challenges with confidence and efficacy.
Pre-requisite: None

EDUC3024 CURRICULUM AND INSTRUCTION IN EARLY CHILDHOOD EDUCATION
This course seeks to introduce course participants the principles of curriculum development and design, grounded on contemporary theories of learning and the ECE curriculum standards promulgated in Mainland, Taiwan, Hong Kong and selected western countries. Influential ECE curriculum models practiced in local and abroad will be introduced. With reference to the ECE teaching materials commonly used in Macao kindergartens, course objectives, contents, implementation and evaluation will be elucidated to help participants plan a course that is educationally appropriate to the pre-primary children. Course participants are taught to base on influential models of integrated thematic study to practice individually configured education.
Pre-requisite: None

EDUC3025 ENGLISH LANGUAGE LEARNING IN EARLY CHILDHOOD
This course is intended to introduce practical strategies in teaching pre-primary pupils English as a second or foreign language through the use of various language activities such as games, songs, nursery rhymes, role plays, and story-telling. Course participants also have opportunities to learn how to design and adapt different teaching materials and resources in order to develop pre-primary pupils’ learning interest and maximize their learning outcomes in the classroom. The course also helps participants to develop their own English phonological, grammatical and lexical competence.
EDUC3026 GUIDANCE IN EARLY CHILDHOOD
This course aims at equipping students of early childhood education with the knowledge of guidance and counselling so that they are able to take up the role of teacher-counsellors. This course will introduce classical and contemporary theories in guidance and counselling and include five components to facilitate the united growth of young children: basic concepts of guidance and counselling, personal growth, personal and social education, problem behaviours in early childhood, and counselling techniques. Various approaches of working with families in guiding children’s behaviours are also covered.
Pre-requisite: EDUC2003

EDUC3027 ASSESSING YOUNG CHILDREN
To enable students a comprehensive understanding of young children’s learning and development, this course provides an overview of educational assessment and introduces the principles and practices of authentic assessment which is highly valued in early childhood education. It explains why and how infants and young children should be assessed, discusses the contexts for authentic assessments, illustrates multiple strategies for collecting information on children’s learning and development, and highlights the importance of conducting systematic observations and recording in the information collecting process. Through this course, students will understand how to utilize assessment information in improving the curriculum and teaching quality and facilitating parent-school partnership. Assessment practices will be linked to the local curriculum guideline which also underpins authentic assessment as the principal means of assessing young children. Ethical issues in this area will also be discussed.
Pre-requisite: EDUC1013 and educ3024

EDUC3028 INTEGRATED GENERAL STUDIES AND SCIENTIFIC ACTIVITIES
This course aims to introduce the content of general studies and scientific activities and the concept that young children’s living activities are undertaken in the natural and social environment. The course will help students introduce to children the different operational methods such as observation, comparison, communication, measurement, inference and forecast. The design of scientific games in this course will encourage children to take an active role in constructing scientific concepts and cognition. The content of this course includes (1) objective, meaning, affective manner and value of scientific inquiry; (2) objects; (3) exercise and energy; (4) living things; (5) the earth; (6) living things and the environment and (7) life education.
Pre-requisite: None

EDUC3029 CHILDREN’S LANGUAGE AND LITERATURE
This course elucidates issues in language acquisition and children literature to teacher trainees. Course participants are empowered to enhance the literacy development of children through literature. Topics covered include: (1) major theories of language acquisition; (2) definition, typology, values and educational functions of children literature; (3) relationships between language and literature for children; (4) application of children literature in language teaching.
Pre-requisite: None
EDUC3031 EDUCATIONAL EVALUATION
This course seeks to introduce basic assessment notions and methodologies to students so that they can make use of the assessment feedback and interpretation professionally to improve teaching and learning, to monitor children’s all-round development and report their progress up to the age of late childhood (0-8 years). Guided by contemporary theories of learning and human development, course participants are empowered to design and administer assessment tools that tie in well with the course objectives and classroom processes of the early childhood education curriculum. At the end of the course, teachers should be conversant with the “know-what, “know-how”, and “know-why” of formative curriculum-embedded assessment, and feel competent to apply the knowledge and skills acquired in authentic home and schooling contexts.
Pre-requisite: EDUC1000

EDUC3032 DRAMA TEACHING IN EARLY CHILDHOOD
Drama helps preschoolers to learn through expressing themselves through movement, music, arts and language, and it is a good way to enhance creative learning. This course will guide and encourage students to help and lead children in exploring and improvising non-structured dramas. It will teach them how to choose books and themes, develop imagination and social skills of children, inspire their creative expressions, and organize and structure activities for their learning in the practical teaching environment.
Pre-requisite: None

EDUC3033 EDUCATION PLANNING AND CREATION OF LEARNING ENVIRONMENT
This course aims to help students understand that a planned and diversified learning environment can allow children to choose their preferred environment according to curriculum, interests and abilities. Through specific and creative experiments, this course helps students understand how children learn and behave in different kinds of environments. From the planning of learning areas, placement and execution, students will be able to arrange appropriate learning environments for children, to have good interactions with them and to arouse their interest in learning. The content will also cover suggestions for different teaching activities and the link between curriculum planning and the design of learning environment.
Pre-requisite: None

EDUC3035 DIGITAL RESOURCES APPLICATION IN KINDERGARTEN
In order to help teacher trainees in building digital portfolios and teaching resources, this course deals with the basic principles and practice of designing and developing multimedia and web-based resources based on the latest development in information technology.
Pre-requisite: None

EDUC3036 ASSESSMENT AND IMPROVEMENT OF EFFECTIVE TEACHER - CHILD INTERACTIONS IN EARLY YEARS EDUCATION 0-8
This course is focused on theories and practices related to effective teaching in early childhood classrooms serving children birth through 8. Students will gain a deep knowledge and understanding of the types of moment-to-moment teacher-child interactions that foster learning and development among young children. They will learn to identify specific teaching behaviors that support effective emotional, behavioral
and instructional support interactions. Moreover, students will also be given ample opportunities to practice observational skills for identifying effective interaction behaviors as well as reflecting on their practice.

Pre-requisite: None

EDUC3037 CURRICULUM & INSTRUCTION OF PRIMARY MATHEMATICS
This course aims to develop basic curriculum knowledge and teaching ability in mathematics for primary teachers.
1. Primary Mathematics Curriculum outline in Macao and others
2. The lesson design and example for mathematics concept development
3. Preparation of lesson plans, worksheets design, and example
4. Mathematics exercise design
5. Expanding the word problems --- design review & current design issues and solutions
6. Word Problem posing and design
7. The method of assessment and instructional design
8. Geometry Teaching Practice and example
9. Examples and lesson design of Calculation topics
10. The school observation
11. Teaching Practice Sharing

Pre-requisite: None

EDUC3038 TEACHING METHODS OF CHINESE IN PRIMARY EDUCATION
本課程旨在引導學生學習拼音、識字、閱讀、寫作、說話/聆聽、書法等教學理論與方法，擴充其中國語文教學專業知能（語文知識、學習策略知識、語文技能、自我調整運用學習策略能力、鑑賞能力、教學方法、學習輔導能力、與課程綱要）。教師將結合討論教學、示範教學、問題導向學習、合作學習等教學策略，藉由精心設計的問題，引導學生分析教材、掌握小學生需求、選用適當的教學法、設計教學活動與評量活動。學生將從教師的教學設計與教學示範中親自感受學生中心的小學中文科教學活動，並且親身體驗多元評量的歷程。

先修科目: EDUC3040

EDUC3039 TEACHING OF SOCIAL STUDIES IN PRIMARY SCHOOLS
This course aims to equip student teachers with the knowledge of Macao society and skills of teaching so that they will become competent teachers. It includes the objectives of subject curriculum, content design, teaching procedures, teaching activities and assessment. Arrangements will focus on learning innovations, with emphasis on process and methods, encouraging independent thinking and cooperative learning and inquiry learning. Learning activities include visits, group discussions, interviews and investigations so that student teacher will develop the ability to design and arrange various extracurricular activities and optimize teaching and learning environment.

Pre-requisite: EDUC1000

EDUC3040 CHINESE CURRICULUM AND COURSE MATERIALS IN PRIMARY EDUCATION
本課程以促進學員對小學語文科的課程內容、傳統語文教學、本澳及鄰近地區的語文課程發展暨未來改革有全面瞭解，並就小學語文課程所涉及的教材與教學資料的編輯與選擇加以全面掌握，以提升學員對小學語文科課程之認識及專業修養，
EDUC3043 TEACHING OF VISUAL ART
The course introduces the issues, concepts, philosophy and content of visual arts teaching to assist students in developing confidence, knowledge, and skills in the theory and practice of teaching visual arts. The emphasis of the course is on visual arts curriculum and lesson planning, motivational strategies, art classroom management, and alternative assessment in visual arts. Students will participate in extensive field experiences exploring methods and materials appropriate to the teaching of visual arts in a primary school setting. The course content includes topics on “principles of visual arts teaching,” “methods of visual arts teaching,” “visual arts teaching: planning and design,” “visual arts teaching: classroom organization and management,” “evaluation of visual arts teaching,” etc.
Pre-requisite: EDUC1060 and EDUC2066

EDUC3044 CLASSROOM MANAGEMENT
This course aims to introduce classroom communication and classroom management, so that primary teachers are able to effectively manage their classrooms and to facilitate their teaching and student’s learning. Topics in classroom management are developing the relationship among teachers, students and parents, understanding the learning needs of students, increasing students’ learning motivation, setting rules, discipline management, problem behaviors management, and helping individual student self-manage.
Pre-requisite: EDUC1000 and EDUC2003

EDUC3045 RESEARCH IN MATHEMATICS EDUCATION
Mathematics educators world-wide formulate research questions to solve perplexing problems and address salient issues in mathematics education to meet the needs of the students. For instance, lesson studies are conducted to help build up a learning organization and professional learning communities in schools. Course participants will be studying empirical research reports that address some of these contemporary issues. Under the guidance of their instructor, they are expected to write a review of an issue in mathematics education with implications for teaching and learning in everyday mathematics classrooms.
Pre-requisite: EDUC2038

EDUC3046 ADVANCED PIANO ACCOMPANIMENT FOR GENERAL MUSIC CLASSROOM
The course aims at further training and enhancing students' piano accompaniment skills in teaching elementary students in the music classroom. Topics will include helping students integrate musical elements articulately into the practical skills of piano accompaniment for the music class. Moreover, discussion and interpretation of sensitivity of piano practice to various forms of children music, such as nursery rhymes, marching, and general children music will also be included in the class. The course will require students to learn several pieces of children music and practically perform these pieces for their classmates and teachers.
Pre-requisite: EDUC1054 and EDUC2063

EDUC3047 TEACHING ENGLISH TO PRIMARY STUDENTS I
The course aims to equip participants with knowledge of primary English language teaching curriculum and strategies to help primary students develop the skills necessary for effective reading and writing. It examines the important issues related to planning, delivering and evaluating English language instruction, explores recent developments in teaching reading and writing skills, and discusses pedagogical implications for the Macao context. Course participants will be helped to make connections between theory and practice and between international literature and local practice. They will be encouraged to engage in critical reflection, challenge accepted principles, and critique their own practice.
Pre-requisite: None

EDUC3048 TEACHING ENGLISH TO PRIMARY STUDENTS II
The course helps students to develop practical skills for teaching grammar and vocabulary in primary English school classrooms in Macao. The course also helps students to further develop their own grammatical and lexical competence and awareness.
Pre-requisite: None

EDUC3049 TEACHING OF SCIENCE AND TECHNOLOGY
This course aims to train participants’ skills and abilities in teaching science and technology in primary schools so as to make professional preparations for teaching primary science (natural studies). This course will help participants know the features and tendencies of contemporary primary science education, learn the concepts, theories, and methods of science and technology teaching, and recognize current situations and existing problems in primary science (natural studies) teaching in Macao. The content of this course includes the nature of science and technology, the curriculum of primary science, processes and methods of scientific inquiry, processes and methods of technological design, and teaching design and assessment of science and technology in primary science. Lectures and demonstration, group discussion, hands-on activities, technological design, and microteaching will be adopted as teaching methods in this course.
Pre-requisite: None

EDUC3050 SUBJECT BASED TEACHING METHODS (SECONDARY MATHEMATICS)II
This course focuses on empowering course participants to write teachable lesson plans and programme of study pertaining to two key domains of secondary mathematics curriculum: numbers and algebra; and statistics and probabilities. Due attention is paid on professional treatment of a number of issues that have a bearing on successful meaningful student learning: educational objectives in accordance with key stages of secondary education; mathematical literacy, competencies, and thinking underpinning various pedagogic and instructional models; history of development of mathematics in different cultures; psychology of mathematics learning, particularly for Chinese learners and different gender; use of calculators and ICT tools for mathematics education; and good balance of assessment of learning and assessment for learning.
Pre-requisite: EDUC2049

EDUC3051 LEARNING TECHNOLOGY FOR SECONDARY MATHEMATICS TEACHING
The use of dynamic mathematics software can not only help students develop a better
understanding of abstract mathematics concepts, but also help students look into the essence of mathematics and develop a positive attitude towards mathematics learning. This course aims at enhancing student teachers’ understanding of various applications of learning technologies, so as to empower them to use the contemporary technologies effectively in secondary mathematics teaching and learning. Specifically, the course provides an overview of the latest development of learning technologies, with emphases on its effective use with appropriate instructional designs. To achieve this end, this course will examine how to integrate contemporary learning technologies with recommended instructional methodologies within secondary mathematics learning contexts so as to fulfill the objectives of the mathematics curriculum standards. After completion of the course, student teachers will be able to integrate the acquired learning technologies to support students' development in mathematics education, and take up related challenges with confidence and efficacy.

Pre-requisite: None

EDUC3052 METHODS OF TEACHING IN SECONDARY SCHOOL HISTORY
本科旨在培訓學生認識教授中學歷史科的過程和技巧，使他們成為合格教師。本课程的内容包括中學歷史科教學理論，課程目標，課程內容，教學技巧及評核方法。學生需按課程內的教學環節設計合適的教學情境。This course aims at equipping students with the knowledge, methods and process of history teaching so that they will become competent history teachers after graduation. Topics include detailed analyses of the instructional theories, curricular objectives and contents, teaching techniques and assessment methods of secondary school history. Students will be required to design appropriate learning environment in teaching selected topics or areas in the history curriculum.

Pre-requisite: EDUC1000

EDUC3053 WORLD HISTORY CURRICULUM AND TEACHING
本科旨在介紹中學世界歷史科課程，以及與課程有關之教學方法，而世界歷史發展過程，亦會涉及，使學生能應付日後在中學教授有關世界歷史課程之用。This course provides students with an overview of the curriculum and teaching of the secondary school World history. Through a systematic introduction to historical events, they are expected to become competent history teachers.

Pre-requisite: None

EDUC3056 SCIENCE EDUCATION IN SECONDARY SCHOOLS
The objective of this course is to enable students to understand the ideas, concepts, principles, and issues involved in science teaching in secondary schools, and to help them acquire relevant strategies and methods of science curriculum development, science teaching in classrooms, and assessment of science teaching. The course content includes the nature of science, science curriculum development, materials for science teaching, instructional strategies in science, assessment in science teaching, and science teacher development. A distinctive feature of this course is the various opportunities provided for students to exercise, reflect, and evaluate these strategies and methods through microteaching, personal reflections, and group discussions.

Pre-requisite: None

EDUC3057 SCIENTIFIC INQUIRY AND PRACTICAL WORK IN
SECONDARY SCHOOLS
The objective of this course is to help students learn the ideas and practice of scientific inquiry in the laboratory environment of secondary schools. The course content includes the concept of scientific inquiry, the roles and types of practical work, and instructional strategies of practical work. In this course, students are provided with various opportunities to enact the ideas of scientific inquiry in classrooms, and most of the hours of this course are spent in the laboratory. Specifically, the experimental contents relevant to physics, chemistry, and biology are involved respectively.
Pre-requisite: None

EDUC3058 ORFF AND KODALY MUSIC TEACHING METHODS
This course provides student teachers with advanced study of music teaching methodologies in the general music classroom, with the main focus on applications of the internationally well-known Orff Music Method and Kodaly Music Method. Moreover, the course will cover music learning theories combined with appropriate lesson planning for the music class. Students taking this course will have a concrete understanding of how to conduct and teach a music class at the elementary level. Furthermore, different music textbooks and materials ill also be analyzed and discussed in this course.
Pre-requisite: EDUC1054 and EDUC2063

EDUC3059 EMERGING PEDAGOGIES OF STEM TEACHING
This course focuses on STEM implementation at the classroom level with the focus on learner centered instruction. Student will explore both traditional and emerging teaching approaches that support STEM inquiry-based learning. Developing appropriate STEM learning actives that aligning with learning objectives and the development of learning products will be emphasized. The use of assessments to facilitate learning will be emphasized. The roles of teachers and learners in supporting learning of this kind will be discussed. The class will also explore and use various technologies; digital media and STEM resources coordinated by FST’s Centre for Science & Engineering Promotion that support STEM education and learning. For this course, in addition to vivid demonstrations and innovative hand-on experiences, students are required to intern with academic staff and graduate students in FST on a research/design project.
Pre-requisite: None

EDUC3060 Extensive Reading and Language Teaching
This is a course for pre-service secondary English teachers that aims to introduce the techniques of using literature and graded readers as extensive reading content for stimulating language learning tasks and activities. A well-balanced language course should provide students equal opportunities for meaning-focused input, meaning-focused output, language-focused learning, and fluency development. Extensive reading of literature and graded readers provides the conditions needed for meaning-focused input and fluency development. Guidelines for selecting texts that are well-suited for particular language learners will be provided and samples of classroom language learning tasks designed for engaging students interactively with the texts will be reviewed. This course will also cover the principles in designing an extensive reading component for secondary English classes including independent extensive reading, class readers, reading circles, class/institution libraries, vocabulary coverage, and making the most of technology for extensive reading. While this course aims at
enriching pre-service teachers’ knowledge to bring extensive reading into the secondary English classroom, it will also provide hands-on experience in the design of tasks for language teaching and learning.
Pre-requisite: EDUC2018 and EDUC2019

EDUC3061 TECHNOLOGY ENHANCED LANGUAGE LEARNING AND TEACHING
Using an authentic, practical, and hands-on approach, this course aims to inform pre-service secondary English language teachers about topics related to technology enhanced language learning and teaching. This course provides students a survey in language teaching related interactive technologies targeting listening, speaking, reading, writing, vocabulary, and grammar. Topics explored include: integrating technology into traditional language learning and teaching, enhancing language learning with digital technologies, web-based resources for language teaching, corpora and concordancers, multimedia, virtual worlds, digital game-based language learning, and the use of mobile technologies to assist and complement traditional language learning and teaching. Students in the course are expected to review and evaluate English language teaching and learning software and Web 2.0 tools for their usefulness in the secondary English language classroom. Students will also apply concepts to create and edit language content for an authentic technology enhanced language learning and teaching experience.
Pre-requisite: None

EDUC4000 SCHOOL COUNSELLING AND GUIDANCE
This course aims to introduce school counselling theories and classroom management techniques. It covers basic counselling knowledge and skills to facilitate the personal growth of teachers and their students. Furthermore, the course encourages teachers to practise their counselling skills within their school settings.
Pre-requisite: None

EDUC4001/EDUC4002/EDUC4003/EDUC4004/EDUC4022/EDUC4023 SUPERVISED TEACHING AND SCHOOL EXPERIENCE
Placing student teachers in the actual classrooms of various Macao secondary schools for teaching practice and hands-on experience is an important component of teacher training and teacher education as well as a necessary step for them to develop from student teachers to frontline classroom teachers. There is regular and close supervision from FED supervisors, who will see to it that TP students demonstrate competence and efficiency to meet the needs of their pupils by applying what they have learned over the years. Capable and experienced teachers in these schools are appointed to help as tutors/mentors and work in close collaboration with FED lecturers to provide guidance and pastoral care. Through regular meetings, detailed discussions and assessment during the process, student teachers are expected to make observable progress.
Pre-requisite: None

EDUC4006 TEACHING OF ORGANIZATION OF WRITING IN SECONDARY SCHOOL
本科旨在揭示中文章法的意義與特色;闡釋章法學的地位與價值, 介紹各類章法: 「正襯類章法」、「因果類章法」、「知覺類章法」、「空間類章法」、「虛實類章法」、「凡目類章法」等；說明中學中文章法教學之道, 引導學生對各類章法論述、研讀與探討，以養成學生對中學中文章法教學的認知與興趣，充實教授中學中文章
EDUC4007 ANALECTS OF CONFUCIUS AND THE WORKS OF MENCIUS
本科旨在使學員把握論語與孟子的基本研究方法和義理。教學重點包括：孔孟的思辨方法、教育思想、人文精神、人性本質、生命理想及德性實踐。課程著重從論語與孟子的文獻中，擷取重要篇章，加以詮釋，抉發其深義，以使學員對孔孟的儒學思想和教育精神有如實的理解與真切的體驗。
先修科目：沒有

EDUC4008 TOPIC STUDIES IN THE HISTORY OF CHINESE EDUCATION
本科以培養學員掌握中國教育史各個主要領域的知識為主。課程以專題方式進行，主要包括儒家教育思想、官學制度、考試制度、書院與蒙學、西式教育的傳播及澳門教育史等專題的深入探討。在完成本課程後，學員當能較全面掌握中國教育發展的特徵和面貌。
先修科目：沒有

EDUC4009 CHINESE LITERARY CRITICISM AND ITS TEACHING
本科旨在介紹中國文學的傳統批評理論和文學批評的目的、意義、方法，揭示現代的批評理論，培養學生就作家、作品、文學創作和文學現象加以評論的能力。此外，並指導學生就文學評論等議題，編寫教材，採用合適的教學法，以便日後在教學實踐中靈活正確運用。
先修科目：沒有

EDUC4010 MING-QING FICTIONS AND ITS TEACHING
本科旨在讓學生通過閱讀、講解和分析，對明清小說的主要作品加深認識，為把小說作為教學材料運用做準備，相關的教學技巧的亦會講授，使學生能應付日後在中學教授中文課程之用。
先修科目：沒有

EDUC4011 PRACTICAL CLASSROOM ENGLISH
This course focuses on the choice of right words and phrases and the appropriate techniques for teachers when they use English to give instructions, ask questions, make comments, give disciplinary intervention in the classroom and encourage their learners to respond in English. The course also examines the English classroom as a communicative context with regular patterns of communication that are negotiated between teachers and students and helps teachers develop ways of promoting more effective patterns of discourse in the English classroom. In particular, issues related to the medium of instruction and the code-switching phenomenon in Macao classrooms will be discussed.
Pre-requisite: EDUC2018 and EDUC2019

EDUC4012 LANGUAGE TESTING
The main aims of this course are to consider the principles and practice of assessment for language learning and to enable course participants to apply essential understanding and techniques to construct and evaluate testing instruments for their particular teaching purposes. Upon completion of the course, course participants should be able to:
determine how learning and testing may be integrated; follow standard procedures in constructing a testing instrument; use appropriate techniques to test learners’ language skills; analyse and interpret test scores for students, teachers and parents; and judge the validity, reliability, practicality and impact of a test.

Pre-requisite: EDUC2018 and EDUC2019

**EDUC4015 TEACHING IN INCLUSIVE SETTINGS**
The course focuses on the teaching skills and methods to general educators who are teaching in inclusive settings where children with special needs receive their education with ordinary children. Classroom modifications in curriculum, assessment, behavior management, and instructional methods are examined. Methods of establishing supportive networks among families, schools, and agencies are introduced. Several programmes designed for inclusive settings at preschool and kindergarten level are examined.

Pre-requisite: EDUC3003 / EDUC3004

**EDUC4017 PHYSICAL EDUCATION III**
The course aims to help students to understand the functions of human body through the study of sport psychology, kinesiology and biomechanics. The course will focus on the relationship between complex human movement structure and sports training. The students are expected to create training method in sports and physical education. Simple experiments will be conducted. It helps students to understand the importance of every human body movement to the developments of physical education and sports.

Pre-requisite: EDUC2036

**EDUC4020 TEACHING OF MODERN CHINESE HISTORY**
本科旨在讓學生認識近現代中國在政治、經濟、社會等方面的重要歷史事件及變化，相關的課程及教學方法，亦會涉及，使學生能應付日後在中學教授歷史課程之用。The course provides an introduction to the history of modern China, with an emphasis on the processes of economic, political and social transformations. Through a systematic introduction to historical events, they are expected to become competent history teachers.

Pre-requisite: None

**EDUC4021 TEACHING OF MACAO HISTORY**
本科旨在讓學生認識自十六世紀以來的澳門歷史及相關的教學方法，以便學生日後能夠在中學講授澳門歷史科課程。課程內容包括澳門歷史大事，政府組織，經濟及社會發展等。This course aims at equipping students with a thorough understanding of Macao history since the 16th century. They are expected to have a general understanding of the secondary school curricula concerning Macao history. Topics include the historical evolution, the government structure, and the economic and social development of Macao.

Pre-requisite: None

**GEGA2002 教育與全球化 EDUCATION AND GLOBALIZATION**
Globalization has become a centerpiece in our times when increasing economic, cultural, and educational interconnections propel nations and citizens to think globally and act locally. Drawing on international scholarship, this course aims to help students make sense of this multi-faceted phenomenon of globalization and examine key themes,
issues, and trends that affect education around the world. A variety of topics will be
discussed and students will be given opportunities to reflect and analyze their own
educational system in relation to these themes and issues. No prior course work on
related topics is required.

Pre-requisite: None

GELH1007 視覺及表演藝術：舞蹈 VISUAL AND PERFORMING ARTS – DANCE
In this course, students explore the current themes and issues in dance by participating
in theoretical (lectures/tutorials), practical (studio/performance), and aesthetic (dance
film appreciation/ critique) classes. Students develop an awareness of the
body through movement, dance improvisation, creative processes, choreography,
interdisciplinary arts, language, and literature. Theoretical and aesthetic components
help students develop analytical thinking skills while practical sections challenge them
to think more deeply on dance and the role it plays in society. Classes focus on a range
of activities that dancers and movement practitioners use to foster kinesthetic
awareness, critical thinking, movement experimentation, play/outcome-based
learning, and communication through body language.

Pre-requisite: None

GELH2003 視覺及表演藝術：戲劇 VISUAL AND PERFORMING ARTS – DRAMA
This course consists of two major components: art introduction and drama. This
course is designed to acquaint students with the vocabularies and concepts for critiquing and
analyzing performing arts. It examines the functions of dramatic art from social and
global perspectives, and it encourages students to develop judgment in analysis and
criticism of drama as a performing art form. Students will gain an overview of the
generic concepts and historical movements in different forms of drama across eras and
cultures. In the drama component, students will be introduced to the form and function
of dramatic literature in relationship to theatrical performance. Study of plays as texts
will lead to rehearsal and performance of selected scenes/acts from plays.

Pre-requisite: None

GELH2004 視覺及表演藝術：音樂 VISUAL AND PERFORMING ARTS – MUSIC
This course aims to encourage students to explore an extensive array of music genres
throughout the history of Western and non-Western cultures and nurture a positive
attitude and appreciation toward music. The students will learn to comprehend the
elements of music (i.e., pitch, melody, rhythm, harmony, and form) and commonly used
terminologies illustrated in major compositions. The students will travel through
different periods (i.e., from the Middle Ages to the Contemporary Era) and listen to
distinguished musical features associated with major composers and their popular
works. Finally, the students will connect this knowledge to the present context that
music has become prevalent in our daily lives (i.e., music in movies or public places).
The proportion of Western music is approximately 70%, whereas that of non-Western
music (i.e., Chinese or other Asian cultures) is 30%.

Pre-requisite: None

GELH2005 視覺及表演藝術：視覺藝術 VISUAL AND PERFORMING ARTS – VISUAL ART
Artworks of different genres have been delighting people from all ages and all places. We enjoy their beauty and their articulation, but we know nothing or very little about their creation process. The practice of aesthetic appreciation of art enables us not only to enjoy art through deeper understanding of the works, but also to recognize and realize our creative potential and capability, as well as to cultivate and broaden our vision of artistic culture. The course will be taught in two parts: Firstly, Introduction to visual and performing arts, which includes common lectures on What is Art? Art and Culture, Understanding Art Genres, Approaches to Art Appreciation. Secondly, Introduction to Visual Arts — Form, Style & Culture, which includes lectures designed to equip the students with basic knowledge of the different visual art forms and teach them how to appreciate and interpret such artworks by illustrating the relationship between form/style and theme/culture. Masterpieces from different regions/places reveal not merely local colors, but also rich cultural contents, echoing profound problems of life for seeing and understanding the world.

Pre-requisite: None

GESB1013 日用統計 EVERYDAY STATISTICS
People nowadays are being connected globally in various ways, and statistics plays a role in giving basic international comparison. The first part of this course introduces some basic ideas in social and economic statistics for cross-national comparison. But, statistics is always considered as a hurdle for those not strong in mathematics. The second part introduces statistics which emphasizes intuitive thinking in daily life instead of technical mathematical jargon. This will equip students with minimal statistical literacy to cope with the data saturated society with confidence, and more advanced statistics courses in future studies. Emphasis is on statistical interpretation rather than analysis.

Pre-requisite: None

GESB2008 性心理學 PSYCHOLOGY OF SEXUALITY
Sex plays an important role in our lives. In this course we will study human sexuality and attempt to explore the psychology of human sexuality in its evolutionary, physiological, and social context. Based on the evolutionary perspective, various aspects of adaptive human sexual behaviours and mechanisms evolved to facilitate reproductive success. Some example of topics include: the evolutionary origins of gender differences and similarities, and sexual reproduction; historical and contemporary views on the psychology of sex in different cultures; diversity of human sexuality; how psychologists conduct sex research, issue of pornography, nature of physical and psychological attractiveness, and more.

Pre-requisite: None

GEST1004 QUANTITATIVE REASONING FOR SCIENCE AND TECHNOLOGY
This course aims at providing a solid foundation of one variable calculus for science and technology students. The topics include basic reasoning skills, limit and continuity, derivative and its applications, integral and its applications.

Pre-requisite: None

GEST2000 健康生活方式與體育科學 ACTIVE LIFESTYLES, WELLNESS AND SPORTS SCIENCE
This course is designed to expose students to the relevant principles in sports science
as related to health and fitness, and to discuss how students can apply the relevant sports science principles in one’s daily life for making sustainable healthy lifestyle choices to improve one’s health and fitness. From the perspectives of sports science, topics relevant for health and fitness, such as health promotion, concepts and principles of exercise, self-evaluation and exercise prescription for health-related physical fitness, effective weight management and nutritional issues, building up healthy social relationships through fitness exercise and practice, sports injury prevention, first aid, etc., will be covered. The course emphasizes the relevance and application of the sports science principles for improving one’s physical and mental health.

Pre-requisite: None

HSCI1002  INTRODUCTION TO BIOLOGICAL SCIENCES
Biology is the study of life. With the objective of introducing students to the fields of biological and biomedical sciences, this course covers the following fundamental aspects or principles of biological sciences: basic units of life, genetic basis of life, evolution and biodiversity, development and function, and ecology and environment. Although all three domains or five kingdoms of life will be covered, the course will focus more on animals and humans.

Pre-requisite: None

HSCI1003  GENERAL AND CLINICAL BIOCHEMISTRY
This course introduces the molecular basis of biological processes through the logic of chemistry. Topics covered include the structure and function of biomolecules, biochemistry techniques, basic metabolic pathways, and a brief introduction to the biochemical bases of relevant disease states.

Pre-requisite: None

HSCI2000  CELL AND MOLECULAR BIOLOGY
This course aims to provide an introduction to the principles of modern cell and molecular biology, and build a foundation for students to initiate and develop the process of inquiry-based learning and discovery in biology and medical sciences. The course will discuss fundamental molecular biology of the cell, current molecular genetic techniques, cell structure and function, and signal transduction pathways.

Pre-requisite: HSCI1002

HSCI2002  GENERAL AND CLINICAL MICROBIOLOGY
This course provides students with a broad-based foundation in the basic concepts of general and clinical microbiology. Topics covered include an overview of microbiology with basic information on bacteria, fungi, protozoa and viruses, a discussion of microbial physiology and genetics, and an introduction to microbial pathogenesis and the host response, providing a conceptual basis for understanding pathogenic microorganisms and the mechanisms by which they cause diseases in the human body. Successful completion of this course will prepare students for more advanced courses in related fields.

Pre-requisites: HSCI1002 and HSCI1003

HSCI2004  GENETICS AND EPIGENETICS
This course introduces the basic principles of classical and molecular genetics and epigenetics, focusing on how biological information is stored, expressed, changed, and transmitted. Topics covered include inheritance, gene structure, expression and
regulation, molecular genetic techniques, population and evolutionary genetics, followed by a discussion of the role of epigenetics in biological phenomena.
Pre-requisites: HSCI1000 and HSCI1002

HSCI2005 DEVELOPMENT AND AGING
This lecture discusses animal development with focus on initiation and construction of an organism and the underlying molecular and genetic basis. Topics covered include an overview of developmental biology, the molecular mechanisms of development, cell commitment and early embryonic development, and the vertebrate development process. A final section will be devoted to a discussion of the aging process, including the evolutionary, biochemical, genetic and cellular mechanisms of aging, as well as age-related diseases.
Pre-requisites: HSCI1002 and HSCI2000

HSCI2006 PHYSIOLOGY AND PATHOPHYSIOLOGY
This course provides an introduction to the structure and function of the major physiological organ systems of the human body, how various body processes are integrated and regulated, and how perturbations in physiological regulatory mechanisms and anatomy result in pathophysiology. Common diseases and disorders of each system are covered, and emphasis is given on cardiovascular, pulmonary, hepatic, renal and reproductive systems.
Pre-requisites: HSCI1003 and HSCI2000

MATH1001 LINEAR ALGEBRA I
Pre-requisites: None

MATH1002 LINEAR ALGEBRA II
Pre-requisites: MATH1001

MATH1003 INTERMEDIATE CALCULUS
Pre-requisite: GEST1004

MATH1004 GEOMETRY
geometries such as Euclidean and non-Euclidean ones.
Pre-requisite: None

MATH2002 MULTIVARIABLE CALCULUS
Pre-requisite: GEST1004

MATH2003 MATHEMATICAL ANALYSIS I
Pre-requisite: GEST1004

MATH2004 MATHEMATICAL ANALYSIS II
Pre-requisite: MATH2003

MATH2005 PROBABILITY
Sample space, random events, and probability. Discrete and continuous random variables. Distributions, densities, joint distribution, and marginal distributions. Conditional probability and independence, Moments, mean, variance, covariance, Chebyshev's inequality, and moment-generation functions. Special probability distributions, densities, and their applications.
Pre-requisite: GEST1004

MATH2006 APPLIED STATISTICS
Pre-requisite: MATH2005

MATH3000 ORDINARY DIFFERENTIAL EQUATIONS
Pre-requisite: MATH1003
MATH3001 COMPLEX ANALYSIS
Pre-requisite: MATH1003

MATH3003 ABSTRACT ALGEBRA
Pre-requisite: MATH1001

MATH3004 PARTIAL DIFFERENTIAL EQUATIONS
Pre-requisites: MATH2002 and MATH3000

MATH3007 HISTORY OF MATHEMATICS
We will explore some major themes in mathematics-calculation, number, geometry, algebra, infinity, formalism—and their historical development in various civilizations, ranging from the antiquity of Babylonia and Egypt through classical Greece, the Middle and Far East, and on to modern Europe. We will see how the earlier civilizations influenced or failed to influence later ones and how the concepts evolved in these various civilizations.
Pre-requisite: None

MATH3013 MATHEMATICAL MODELING
Modeling techniques for analysis or decision-making. The detailed content in this course can vary from extending students' training and understanding in applied mathematical knowledge to further study in specific areas in applied mathematics.
Pre-requisite: MATH1003

MATH4000 ELEMENTARY NUMBER THEORY
Pre-requisite: None