

**Faculty of Education**

**Doctoral Degree Programme**

AREA OF STUDY

- Education

FACULTY OF EDUCATION

# Doctoral Degree Programme

## Doctor of Philosophy

### • Education

<b>Compulsory Courses</b>		<b>Credits</b>
EDUC8001	Qualitative Research Methods	3
EDUC8002	Applications of Advanced Quantitative Methods	3
EDUC8003	Research Ethics	--
EDUC8004	Research Writing	3
EDUC8005	Introduction to Educational Research	1
EDUC8008	Qualitative Research Design	2
EDUC8009	Descriptive and Inferential Statistics	3
EDUC8999	Doctoral Thesis	18
<b>Total Credits:</b>		<b>33</b>

## Doctoral Degree Programme

### Doctor of Education

Compulsory Courses		Credits
EDUC8100	Educational Leadership and Policy Analysis	3
EDUC8101	Organization and Leadership: From Theories to Practices	3
EDUC8102	Research Methods in Education	3
EDUC8103	Organizing for Learning	3
EDUC8104	Data and Decision	3
EDUC8105	Comparative and International Education	3
EDUC8106	Research Writing and Ethics	3
EDUC8107	Special Topics Seminar	4
EDUC8108	Practice in Action	2
EDUC8109	Independent Study	2
EDUC8199	Doctoral Thesis	18
Total Credits:		47

FACULTY OF EDUCATION

# Master's Degree Programmes

## Master of Philosophy

### • Educational Administration

<b>Year I</b>		<b>Credits</b>
Compulsory Courses:		
EDUC7201	Theories of Educational Administration	3
EDUC7202	Educational Law and Policy Analysis	3
EDUC7203	Education and Development	3
EDUC7001	Research Methods in Education	3
Required Elective Courses (1 out of 7):		3
EDUC7251	Organizational Change and Development in Schools	
EDUC7252	Seminar of Social Change and Educational Reforms	
EDUC7253	School Administration and Management	
EDUC7254	Sociological Analysis of Educational Policy	
EDUC7255	Group Dynamics	
EDUC7256	Comparative Education	
EDUC7257	Special Topics in Educational Administration	
Required Elective Course (1 out of 3):		3
EDUC7051	Qualitative Research in Education	
EDUC7052	Quantitative Research in Education	
EDUC7053	Action Research	
<b>Year II</b>		<b>Credits</b>
EDUC7290	Thesis	12
<b>Total Credits:</b>		<b>30</b>

# Master's Degree Programmes

## Master of Philosophy

### • Educational Psychology

<b>Year I</b>		<b>Credits</b>
Compulsory Courses:		
EDUC7401	Educational and Psychological Assessment	3
EDUC7402	Psychology of Learning	3
EDUC7403	Advanced Developmental Psychology	3
EDUC7001	Research Methods in Education	3
Required Elective Courses (1 out of 7):		3
EDUC7451	Motivation and Learning	
EDUC7452	Psychology of Instruction	
EDUC7453	Learning Difficulties and Guidance	
EDUC7454	Educational Diagnosis and Interventions	
EDUC7455	Behavioral and Social Problems and Guidance	
EDUC7456	Teaching Students with Attention Deficit and Hyperactivity Disorder	
EDUC7457	Special Topics in Educational Psychology	
Required Elective Course (1 out of 3):		3
EDUC7051	Qualitative Research in Education	
EDUC7052	Quantitative Research in Education	
EDUC7053	Action Research	
<b>Year II</b>		<b>Credits</b>
EDUC7490	Thesis	12
<b>Total Credits:</b>		<b>30</b>

## FACULTY OF EDUCATION

# Master's Degree Programmes

## Master of Philosophy

### • Curriculum and Instruction

Year I	Credits
Compulsory Courses:	
EDUC7101 Principles of Curriculum & Instruction	3
EDUC7103 Evaluation of Curriculum, Instruction and Student Performance	3
EDUC7001 Research Methods in Education	3
Required Elective Course (1 out of 3):	3
EDUC7051 Qualitative Research in Education	
EDUC7052 Quantitative Research in Education	
EDUC7053 Action Research	
<b>A. For students without selected area of concentration:</b>	
Compulsory Course:	
EDUC7102 Curriculum Design & Implementation	3
Required Elective Courses (1 out of 11):	3
EDUC7151 Seminar on Curricular Issues (Subject-based)	
EDUC7152 Multimedia Technology in Instructional Design	
EDUC7153 Intelligence and Creativity	
EDUC7154 Mathematics Learning & Teaching	
EDUC7155 Chinese Language Learning & Teaching	
EDUC7156 Second Language Learning & Teaching	
EDUC7157 Science Learning and Teaching	
EDUC7158 Social Studies Learning and Teaching	
EDUC7159 Moral Development and Teaching	
EDUC7160 Curriculum and Instructional Leadership	
EDUC7161 Special Topics in Curriculum & Instruction	
<b>B. For students with selected area of concentration:</b>	
<b>(I) For the concentration of Science Education</b>	
Compulsory Course:	
EDUC7162 Theories of Science Teaching and Learning	3
Required Elective Courses (1 out of 3):	3
EDUC7163 Studies on Science Curriculum	
EDUC7164 The Evaluation of Science Teaching and Learning	
EDUC7165 Professional Development of Science Teachers	

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**(II) For the concentration of Information and Communication Technology in Education**

Compulsory Course:

EDUC7169 Integrating Technology for Teaching and Learning 3

Required Elective Courses (1 out of 3): 3

EDUC7166 Issues in Distance Education

EDUC7167 Multimedia Design and Practice

EDUC7168 Trends &amp; Issues in Instructional Technology

**III) For the concentration of Chinese Language Education**

Compulsory Course:

EDUC7170 Secondary School Chinese Language Curriculum Design and Teaching 3

Required Elective Courses (1 out of 3): 3

EDUC7171 Topic Studies in Chinese Writing

EDUC7172 Appreciation and Teaching of Chinese Literature

EDUC7182 Language Arts Topic Studies and Teaching

**IV) For the concentration of Mathematics Education**

Compulsory Course:

EDUC7175 Theories of Mathematics Teaching and Learning 3

Required Elective Courses (1 out of 3): 3

EDUC7174 Studies on Mathematics Curriculum

EDUC7176 The Evaluation of Mathematics Teaching and Learning

EDUC7177 Preparation and Professional Development of Mathematics Teachers

**V) For the concentration of English Language Education**

Compulsory Course:

EDUC7179 Curriculum Design and Materials Development for English Teachers 3

Required Elective Courses (1 out of 3): 3

EDUC7180 Pedagogical Grammar for English Language Teachers

EDUC7181 Teaching Second Language Writing

EDUC7183 Second Language Vocabulary Acquisition and Language Teaching

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**Year II****Credits**

EDUC7190 Thesis 12

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**Total Credits: 30**

## FACULTY OF EDUCATION

# Master's Degree Programmes

## Master of Philosophy

### • School Counseling

Year I	Credits
Compulsory Courses:	
EDUC7601 Theories in Counseling Profession	3
EDUC7602 Educational & Psychological Assessment	3
EDUC7603 Advanced Counseling Skills	3
EDUC7001 Research Methods in Education	3
Required Elective Courses (1 out of 5):	3
EDUC7651 Career Counseling	
EDUC7652 Group Counseling	
EDUC7653 Family Counseling	
EDUC7654 Abnormal Psychology in Adolescence	
EDUC7655 Special Topics in School Counseling	
Required Elective Course (1 out of 3):	3
EDUC7051 Qualitative Research in Education	
EDUC7052 Quantitative Research in Education	
EDUC7053 Action Research	
<b>Year II</b>	<b>Credits</b>
EDUC7690 Thesis	12
<b>Total Credits:</b>	<b>30</b>



# Master's Degree Programmes

## Master of Philosophy

### • Physical Education and Sport Studies

<b>Year I</b>	<b>Credits</b>
Compulsory Courses:	
EDUC7501 Advanced Exercise Psychology	3
EDUC7502 Curriculum and Teaching of Physical Education	3
EDUC7503 Advanced Exercise Physiology	3
EDUC7001 Research Methods in Education	3
Required Elective Courses (1 out of 7):	3
EDUC7551 Comparative Physical Education and Sport	
EDUC7552 Sports, Recreation and Leisure Studies	
EDUC7553 Effective Teaching and Learning in Physical Education	
EDUC7554 Exercise and Nutrition	
EDUC7555 Sports Sociology	
EDUC7556 Physical Activity and Health	
EDUC7557 Special Topics in Physical Education and Sport Studies	
Required Elective Course (1 out of 3):	3
EDUC7051 Qualitative Research in Education	
EDUC7052 Quantitative Research in Education	
EDUC7053 Action Research	
<b>Year II</b>	<b>Credits</b>
EDUC7590 Thesis	12
<b>Total Credits:</b>	<b>30</b>

FACULTY OF EDUCATION

# Master's Degree Programmes

## Master of Philosophy

### • Early Childhood Education and Child Development

<b>Year I</b>	<b>Credits</b>
Compulsory Courses:	
EDUC7301 Theories and Studies of Child Development	3
EDUC7302 Cognition and Learning in the Early Years	3
EDUC7303 Child Play Studies	3
EDUC7001 Research Methods in Education	3
EDUC7304 Early Childhood Programme Quality Evaluation	3
Required Elective Course (1 out of 3):	3
EDUC7051 Qualitative Research in Education	
EDUC7052 Quantitative Research in Education	
EDUC7053 Action Research	

<b>Year II</b>	<b>Credits</b>
EDUC7390 Thesis	12

<b>Total Credits:</b>	<b>30</b>
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## Master's Degree Programmes

### Master of Arts in Teaching English to Speakers of Other Languages (TESOL)

<b>Year I/II</b>	<b>Credits</b>
Compulsory Courses:	
EDUC7156 Second Language Learning & Teaching	3
EDUC7180 Pedagogical Grammar for English Language Teachers	3
EDUC7701 Teacher Development in TESOL	3
EDUC7702 Teaching Reading and Writing	3
EDUC7703 Language Testing and Assessment	3
EDUC7704 Teaching Listening and Speaking	3
EDUC7705 Language and Linguistics	3
EDUC7798 Project Report	6
Required Elective Course (1 out of 9):	
EDUC7001 Research Methods in Education	3
EDUC7103 Evaluation of Curriculum, Instruction and Student Performance	3
EDUC7179 Curriculum Design and Materials Development for English Teachers	3
EDUC7183 Second Language Vocabulary Acquisition and Language Teaching	3
EDUC7751 Understanding Second Language Acquisition	3
EDUC7752 Special Topics in TESOL	3
EDUC7753 Social Perspectives on Language Use and Bilingual Education	3
EDUC7754 Learning and Teaching of English Phonetics and Phonics	3
EDUC7755 Written and Spoken Discourse for English Language Teaching	3
<b>Total Credits:</b>	<b>30</b>

## FACULTY OF EDUCATION

# Postgraduate Certificate Programmes (Daytime/Evening)

## Postgraduate Certificate in Education

### • Secondary Education

Year I	Credits
Compulsory Courses:	
EDUC6001 Introduction to Education	3
EDUC6002 Educational Psychology	3
EDUC6003 Teacher Ethics	1
EDUC6004 Teaching Practice	2
EDUC6011 Classroom Assessment	1.5
EDUC6012 Information Technology in Education	1.5
EDUC6101 Counseling and Guidance	3
EDUC6102 Curriculum and Pedagogy (Subject-based)	3
Required Elective Courses (Choose 6 credits from the following required electives courses):	
EDUC6501 Educational Administration	3
EDUC6502 Introduction to Special Education	3
EDUC6503 Educational Research	3
EDUC6504 Sociology of Education	3
<b>Total Credits:</b>	<b>24</b>

## Postgraduate Certificate in Education

### • Primary Education

Year I	Credits
Compulsory Courses:	
EDUC6001 Introduction to Education	3
EDUC6002 Educational Psychology	3
EDUC6003 Teacher Ethics	1
EDUC6004 Teaching Practice	2
EDUC6011 Classroom Assessment	1.5
EDUC6012 Information Technology in Education	1.5
EDUC6201 Curriculum and Pedagogy	3
EDUC6202 School Counseling and Guidance	3
Required Elective Courses (Choose 6 credits from the following required electives courses):	
EDUC6501 Educational Administration	3
EDUC6502 Introduction to Special Education	3
EDUC6503 Educational Research	3
EDUC6504 Sociology of Education	3
<b>Total Credits:</b>	<b>24</b>

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## Postgraduate Certificate in Education

### • Pre-Primary Education

Year I	Credits
Compulsory Courses:	
EDUC6001 Introduction to Education	3
EDUC6002 Educational Psychology	3
EDUC6003 Teacher Ethics	1
EDUC6004 Teaching Practice	2
EDUC6301 Health and Care in Early Childhood	3
EDUC6302 Early Childhood Development	3
EDUC6303 Integrated Learning	3
Required Elective Courses (Choose 6 credits from the following required electives courses):	
EDUC6501 Educational Administration	3
EDUC6502 Introduction to Special Education	3
EDUC6503 Educational Research	3
EDUC6504 Sociology of Education	3
EDUC6505 Educational Technology in Early Childhood Settings	3
EDUC6506 Assessing Young Children	3
EDUC6507 Parental Education and Involvement	3
EDUC6508 Guidance and Counseling in Early Childhood	1.5
EDUC6509 Inclusive Education	1.5
<b>Total Credits:</b>	<b>24</b>

## FACULTY OF EDUCATION

# Bachelor's Degree Programmes

## Bachelor of Education

### • Chinese

Year I		Credits
EDUC1000	Introduction to Education	3
EDUC1002	History of Chinese Literature and Its Teaching I	3
EDUC1003	History of Chinese Literature and Its Teaching II	3
EDUC1004	Modern Chinese Language and Its Teaching	3
EDUC1005	Teaching and Learning of the Ancient and Modern Chinese Characters	3
EDUC1047	Theories of Curriculum & Instruction	3
Community and Peer Education Courses		2
Languages and Skills Courses		12
2 General Education Courses		6
<b>Total Credits:</b>		<b>38</b>
Year II		Credits
EDUC2001	Sociology of Education	3
EDUC2003	Educational Psychology	3
EDUC2005	Classical Chinese Prose and Its Teaching I	3
EDUC2006	Classical Chinese Prose and Its Teaching II	3
EDUC2007	Teaching and Learning of the Grammar and Rhetoric of Literary Chinese	3
Community and Peer Education Course		1
Languages and Skills Course		3
4 General Education Courses		12
<b>Total Credits:</b>		<b>31</b>
Year III		Credits
EDUC3000	Integrating IT into Teaching and Learning	3
EDUC3003	Introduction to Special Education	3
EDUC3006	Teacher Ethics and Teacher Professional Development	3
EDUC3007	Subject-based Teaching Methods I (Chinese)	3
EDUC3008	Subject-based Teaching Methods II (Chinese)	3
EDUC3009	The Teaching of Chinese Poetry, Lyric and Vernacular Songs	3
EDUC3010	History of Chinese Thoughts and Education	3
2 General Education Courses		6
1 Free Elective Course		3
<b>Total Credits:</b>		<b>30</b>

<b>Year IV</b>		<b>Credits</b>
EDUC4000	School Counselling and Guidance	3
EDUC4001	Supervised Teaching and School Experience	6
EDUC4007	Analects of Confucius and the Works of Mencius	3
3 Free Elective Courses		9
<b>Total Credits:</b>		<b>21</b>
<b>Grand Total:</b>		<b>Credits 120</b>

#### **Free Elective Courses \***

EDUC1001	Philosophy of Education
EDUC1007	Life Education
EDUC1008	Education and Society in Macao
EDUC1009	Multimedia Courseware Design and Development
EDUC1010	Photography in Education
EDUC1011	Western Classical Music History
EDUC1012	Industry of Sport, Leisure and Recreation - an Introduction
EDUC2000	Moral Education
EDUC2002	Educational Assessment
EDUC2004	Modern Chinese Writing and Its Teaching
EDUC2008	Gender and Education
EDUC2009	Media Literacy and Citizenship Education
EDUC2010	Nurturing Talented and Creative Learners: Know-What, Know-Why and Know-How
EDUC2011	Enlightened Early Childhood Education in China
EDUC2012	History of Education in the East and the West
EDUC2013	Health Care and Massage in PE and Sports
EDUC2014	Psychology of Adolescents
EDUC2015	Youth Culture
EDUC2016	Introduction to Classical Works and Its Teaching
EDUC2017	Teaching Writing and Chinese Culture
EDUC2051	Chinese History Curriculum and Teaching I
EDUC2052	Chinese History Curriculum and Teaching II
EDUC3001	Educational Administration
EDUC3002	Educational Research
EDUC3005	Classroom Management (Secondary)
EDUC3011	Educational Policy and Practice in Macao
EDUC3012	Civil Examination and Traditional Education in China
EDUC3014	I Music: Music, Me & the Society
EDUC3015	Ancient History Teaching in China
EDUC3016	Literature, History and Reading
EDUC3017	Modern and Contemporary Chinese Literature and Its Teaching
EDUC3052	Methods of Teaching in Secondary School History
EDUC3053	World History Curriculum and Teaching
EDUC4006	Teaching of Organization of Writing in Secondary School
EDUC4008	Topics in History of Chinese Education
EDUC4009	Chinese Literary Criticism and Its Teaching
EDUC4010	Ming-Qing Fictions and Its Teaching
EDUC4020	Teaching of Modern Chinese History
EDUC4021	Teaching of Macao History

\* Students can also choose any courses offered by all bachelor's degree programmes of UM.

## FACULTY OF EDUCATION

# Bachelor's Degree Programmes

## Bachelor of Education

### • English

Year I	Credits
EDUC1000 Introduction to Education	3
EDUC1023 Introduction to Applied English Studies	3
EDUC1024 Introduction to English Language Teaching	3
EDUC1047 Theories of Curriculum & Instruction	3
Community and Peer Education Courses	2
Languages and Skills Courses	12
4 General Education Courses	12
<b>Total Credits:</b>	<b>38</b>

Year II	Credits
EDUC1006 Language Learning Theories and English Language Teaching	3
EDUC2001 Sociology of Education	3
EDUC2003 Educational Psychology	3
EDUC2018 Subject-based Teaching Methods I (English)	3
EDUC2019 Subject-based Teaching Methods II (English)	3
Community and Peer Education Course	1
Languages and Skills Courses	3
4 General Education Courses	12
1 Free Elective Course	3
<b>Total Credits:</b>	<b>34</b>

Year III	Credits
EDUC2022 Teaching Reading and Writing	3
EDUC2023 Teaching Listening and Speaking	3
EDUC3000 Integrating IT into Teaching & Learning	3
EDUC3003 Introduction to Special Education	3
EDUC3006 Teacher Ethics and Teacher Professional Development	3
EDUC3018 Socio-Cultural Aspects of English Language Teaching	3
EDUC3019 Creative Ideas in the English Language Classroom	3
3 Free Elective Courses	9
<b>Total Credits:</b>	<b>30</b>



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<b>Year IV</b>		<b>Credits</b>
EDUC4000	School Counselling and Guidance	3
EDUC4002	Supervised Teaching and School Experience	6
EDUC4011	Practical Classroom English	3
2 Free Elective Courses		6
<b>Total Credits:</b>		<b>18</b>

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<b>Grand Total:</b>	<b>Credits</b>
	<b>120</b>

#### **Free Elective Courses \***

EDUC1001	Philosophy of Education
EDUC1007	Life Education
EDUC1008	Education and Society in Macao
EDUC1009	Multimedia Courseware Design and Development
EDUC2000	Moral Education
EDUC2002	Educational Assessment
EDUC2009	Media Literacy and Citizenship Education
EDUC2010	Nurturing Talented and Creative Learners: Know-What, Know-Why and Know-How
EDUC2011	Enlightened Early Childhood Education in China
EDUC2012	History of Education in the East and the West
EDUC2014	Psychology of Adolescents
EDUC2015	Youth Culture
EDUC2020	Focused English Skills for ELT Teachers: Speaking
EDUC2021	English Linguistics and Literature as Resources for Teachers
EDUC2024	Teaching Grammar and Vocabulary
EDUC3001	Educational Administration
EDUC3002	Educational Research
EDUC3005	Classroom Management (Secondary)
EDUC3011	Educational Policy and Practice in Macao
EDUC3012	Civil Examination and Traditional Education in China
EDUC3060	Extensive Reading and Language Teaching
EDUC3061	Technology Enhanced Language Learning and Teaching
EDUC4012	Language Testing

\* Students can also choose any courses offered by all bachelor's degree programmes of UM.

## FACULTY OF EDUCATION

# Bachelor's Degree Programmes

## Bachelor of Education

### • Mathematics

<b>Year I</b>	<b>Credits</b>
EDUC1000 Introduction to Education	3
EDUC1022 Theories of Curriculum and Instruction (Secondary Mathematics)	3
MATH1001 Linear Algebra I	3
MATH1002 Linear Algebra II	3
MATH1003 Intermediate Calculus	3
MATH1004 Geometry	3
Community & Peer Education Courses	2
Languages & Skills Courses	12
1 General Education Course	
GEST1004 Quantitative Reasoning for Science and Technology	3
1 Free Elective Course	3
<b>Total Credits:</b>	<b>38</b>

<b>Year II</b>	<b>Credits</b>
ECEN1008 Physics I	3
EDUC2001 Sociology of Education	3
EDUC2003 Educational Psychology	3
EDUC2049 Subject Based Teaching Methods (Secondary Mathematics) I	3
EDUC2050 Elementary Mathematics Teaching & Research	3
MATH2002 Multivariable Calculus	3
MATH2003 Mathematical Analysis I	3
MATH2004 Mathematical Analysis II	3
MATH2005 Probability	3
MATH2006 Applied Statistics	3
Community & Peer Education Course	1
Languages & Skills Courses	3
2 General Education Courses	6
<b>Total Credits:</b>	<b>40</b>

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<b>Year III</b>	<b>Credits</b>
EDUC3003 Introduction to Special Education	3
EDUC3006 Teacher Ethics and Teacher Professional Development	3
EDUC3050 Subject Based Teaching Methods (Secondary Mathematics) II	3
EDUC3051 Learning Technology for Secondary Mathematics Teaching	3
MATH3000 Ordinary Differential Equations	3
MATH3001 Complex Analysis	3
MATH3003 Abstract Algebra	3
5 General Education Courses	15
1 Free Elective Course	3
<b>Total Credits:</b>	<b>39</b>

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<b>Year IV</b>	<b>Credits</b>
EDUC4000 School Counselling and Guidance	3
EDUC4023 Supervised Teaching and School Experience	6
MATH4000 Elementary Number Theory	3
1 Free Elective Course	3
<b>Total Credits:</b>	<b>15</b>

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<b>Grand Total:</b>	<b>Credits</b> <b>132</b>
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#### **Free Elective Courses \***

EDUC1001	Philosophy of Education
EDUC2002	Educational Assessment
EDUC3001	Educational Administration
EDUC3002	Educational Research
EDUC3005	Classroom Management (Secondary)
MATH3004	Partial Differential Equations
MATH3007	History of Mathematics
MATH3013	Mathematical Modeling

\* Students can also choose any courses offered by all bachelor's degree programmes of UM.

## FACULTY OF EDUCATION

# Bachelor's Degree Programmes

## Bachelor of Education

### • Integrated Science with Specialization in Biology

<b>Year I</b>	<b>Credits</b>
APAC1000 Advanced Mathematics I	3
APAC1001 College Physics	3
APAC1002 Electromagnetism and Physical Optics	3
APAC1003 Introduction to College Chemistry	3
APAC2000 Advanced Mathematics II	3
EDUC1000 Introduction to Education	3
HSCI1002 Introduction to Biological Sciences	3
Community & Peer Education Courses	2
Languages & Skills Courses	9
1 General Education Course	3
1 Required Elective Course:	
HSCI1003 General and Clinical Biochemistry	3
<b>Total Credits:</b>	<b>38</b>

<b>Year II</b>	<b>Credits</b>
APAC2001 Analytical and Environmental Chemistry	3
APAC2003 Inorganic Chemistry	3
APAC2005 Earth and Universe	3
EDUC2001 Sociology of Education	3
EDUC2003 Educational Psychology	3
EDUC3056 Science Education in Secondary Schools	3
EDUC3057 Scientific Inquiry and Practical Work in Secondary Schools	3
HSCI2002 General and Clinical Microbiology	3
HSCI2004 Genetics and Epigenetics	3
Community & Peer Education Course	1
Languages & Skills Courses	6
1 General Education Course	3
2 Required Elective Courses:	
HSCI2000 Cell and Molecular Biology	3
1 Required Elective Course	3
<b>Total Credits:</b>	<b>43</b>

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<b>Year III</b>		<b>Credits</b>
EDUC3003	Introduction to Special Education	3
EDUC3006	Teacher Ethics and Teacher Professional Development	3
EDUC3013	Assessment in Science Education	3
EDUC3059	Emerging Pedagogies of STEM Teaching	3
6 General Education Courses		18
3 Free Elective Courses		9
<b>Total Credits:</b>		<b>39</b>

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<b>Year IV</b>		<b>Credits</b>
EDUC4000	School Counselling and Guidance	3
EDUC4022	Supervised Teaching and School Experience	6
<b>Total Credits:</b>		<b>9</b>

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		<b>Credits</b>
<b>Grand Total:</b>		<b>129</b>

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#### **Required Elective Courses**

HSCI1003	General and Clinical Biochemistry
HSCI2000	Cell and Molecular Biology
HSCI2005	Biology of Development and Aging
HSCI2006	Physiology and Pathophysiology

#### **Free Elective Courses \***

EDUC1001	Philosophy of Education
EDUC2002	Educational Assessment
EDUC3001	Educational Administration
EDUC3002	Educational Research
EDUC3005	Classroom Management (Secondary)

\* Students can also choose any courses offered by all bachelor's degree programmes of UM.

## FACULTY OF EDUCATION

# Bachelor's Degree Programmes

## Bachelor of Education

### • Integrated Science with Specialization in Chemistry

<b>Year I</b>	<b>Credits</b>
APAC1000 Advanced Mathematics I	3
APAC1001 College Physics	3
APAC1002 Electromagnetism and Physical Optics	3
APAC1003 Introduction to College Chemistry	3
APAC2000 Advanced Mathematics II	3
EDUC1000 Introduction to Education	3
HSCI1002 Introduction to Biological Sciences	3
Community & Peer Education Courses	2
Languages & Skills Courses	9
1 General Education Course	3
1 Free Elective Course	3
<b>Total Credits:</b>	<b>38</b>

<b>Year II</b>	<b>Credits</b>
APAC2001 Analytical and Environmental Chemistry	3
APAC2003 Inorganic Chemistry	3
APAC2005 Earth and Universe	3
EDUC2001 Sociology of Education	3
EDUC2003 Educational Psychology	3
EDUC3056 Science Education in Secondary Schools	3
EDUC3057 Scientific Inquiry and Practical Work in Secondary Schools	3
HSCI2002 General and Clinical Microbiology	3
HSCI2004 Genetics and Epigenetics	3
Community & Peer Education Course	1
Languages & Skills Courses	6
1 General Education Course	3
1 Free Elective Course	3
<b>Total Credits:</b>	<b>40</b>

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<b>Year III</b>	<b>Credits</b>
EDUC3003 Introduction to Special Education	3
EDUC3006 Teacher Ethics and Teacher Professional Development	3
EDUC3013 Assessment in Science Education	3
EDUC3059 Emerging Pedagogies of STEM Teaching	3
6 General Education Courses	18
3 Required Elective Courses	9
1 Free Elective Course	3
<b>Total Credits:</b>	<b>42</b>

<b>Year IV</b>	<b>Credits</b>
EDUC4000 School Counselling and Guidance	3
EDUC4022 Supervised Teaching and School Experience	6
<b>Total Credits:</b>	<b>9</b>

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<b>Grand Total:</b>	<b>Credits</b> <b>129</b>
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#### **Required Elective Courses**

APAC2006	Organic Chemistry: Foundations of Chemical Reactivity and Synthesis
APAC3000	Materials Physics and Chemistry
APAC3005	Physical Chemistry
APAC3008	Nanochemistry
APAC3009	Polymer Chemistry

#### **Free Elective Courses \***

EDUC1001	Philosophy of Education
EDUC2002	Educational Assessment
EDUC3001	Educational Administration
EDUC3002	Educational Research
EDUC3005	Classroom Management (Secondary)

\* Students can also choose any courses offered by all bachelor's degree programmes of UM.

## FACULTY OF EDUCATION

# Bachelor's Degree Programmes

## Bachelor of Education

### • Integrated Science with Specialization in Physics

<b>Year I</b>	<b>Credits</b>
APAC1000 Advanced Mathematics I	3
APAC1001 College Physics	3
APAC1002 Electromagnetism and Physical Optics	3
APAC1003 Introduction to College Chemistry	3
APAC2000 Advanced Mathematics II	3
EDUC1000 Introduction to Education	3
HSCI1002 Introduction to Biological Sciences	3
Community & Peer Education Courses	2
Languages & Skills Courses	9
1 General Education Course	3
1 Free Elective Course	3
<b>Total Credits:</b>	<b>38</b>

<b>Year II</b>	<b>Credits</b>
APAC2001 Analytical and Environmental Chemistry	3
APAC2003 Inorganic Chemistry	3
APAC2005 Earth and Universe	3
EDUC2001 Sociology of Education	3
EDUC2003 Educational Psychology	3
EDUC3056 Science Education in Secondary Schools	3
EDUC3057 Scientific Inquiry and Practical Work in Secondary Schools	3
HSCI2002 General and Clinical Microbiology	3
HSCI2004 Genetics and Epigenetics	3
Community & Peer Education Course	1
Languages & Skills Courses	6
1 General Education Course	3
1 Required Elective Course	3
1 Free Elective Course	3
<b>Total Credits:</b>	<b>43</b>



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<b>Year III</b>	<b>Credits</b>
EDUC3003     Introduction to Special Education	3
EDUC3006     Teacher Ethics and Teacher Professional Development	3
EDUC3013     Assessment in Science Education	3
EDUC3059     Emerging Pedagogies of STEM Teaching	3
6 General Education Courses	18
2 Required Elective Courses	6
1 Free Elective Course	3
<b>Total Credits:</b>	<b>39</b>

<b>Year IV</b>	<b>Credits</b>
EDUC4000     School Counselling and Guidance	3
EDUC4022     Supervised Teaching and School Experience	6
<b>Total Credits:</b>	<b>9</b>

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<b>GRAND TOTAL:</b>	<b>Credits</b> <b>129</b>
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#### **Required Elective Courses**

APAC2004	Quantum Physics
APAC3001	Solid State Physics
APAC3002	Thermodynamic and Statistical Physics
APAC3007	Low-Dimensional Physics

#### **Free Elective Courses \***

EDUC1001	Philosophy of Education
EDUC2002	Educational Assessment
EDUC3001	Educational Administration
EDUC3002	Educational Research
EDUC3005	Classroom Management (Secondary)

\* Students can also choose any courses offered by all bachelor's degree programmes of UM.

FACULTY OF EDUCATION

# Bachelor's Degree Programmes

## Bachelor of Education

### • Pre-Primary Education

Year I	Credits
EDUC1000 Introduction to Education	3
EDUC1013 Early Childhood Development	3
EDUC1054 Musicianship I	3
EDUC1060 Visual Art I: Exploration and Discovery	3
EDUC2003 Educational Psychology	3
EDUC3023 Educational Technology in Early Childhood Education	3
Community & Peer Education Courses	2
Languages & Skills Courses	12
3 General Education Courses	9
<b>Total Credits:</b>	<b>41</b>

Year II	Credits
EDUC2001 Sociology of Education	3
EDUC2025 Teaching Fundamental Movement Skills for Young Children	2
EDUC2026 Teaching of Chinese in Kindergarten	3
EDUC2027 Young Children's Mathematical Activities	3
EDUC2032 Movement Programme for Young Children	2
EDUC2064 Teaching of Music I	1.5
EDUC2067 Teaching of Visual Art	1.5
EDUC3021 Health and Care for Young Children	3
Community & Peer Education Course	1
Languages & Skills Courses	3
5 General Education Courses	15
<b>Total Credits:</b>	<b>38</b>

Year III	Credits
EDUC3004 Introduction to Special Education	3
EDUC3006 Teacher Ethics and Teacher Professional Development	3
EDUC3020 Social and Cultural Activities	3
EDUC3024 Curriculum and Instruction in Early Childhood Education	3
EDUC3025 English Language Learning in Early Childhood	1.5
EDUC3026 Guidance in Early Childhood	3
EDUC3027 Assessing Young Children	3

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EDUC3028	Integrated General Studies and Scientific Activities	3
EDUC3029	Children's Language and Literature	1.5
3 Free Elective Courses		9
<b>Total Credits:</b>		<b>33</b>

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<b>Year IV</b>		<b>Credits</b>
EDUC4003	Supervised Teaching and School Experience	6
1 Free Elective Course		3
<b>Total Credits:</b>		<b>9</b>

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		<b>Credits</b>
<b>Garnd Total:</b>		<b>121</b>

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#### **Free Electives \***

EDUC1001	Philosophy of Education
EDUC2028	Integrated Creative Activities
EDUC2029	Playing and Learning
EDUC2030	Parental Education and Involvement
EDUC2031	Creative Physical Activities and Equipment for Young Children
EDUC2065	Teaching of Music II
EDUC2066	Visual Art II: Theory and Practice
EDUC3002	Educational Research
EDUC3031	Educational Evaluation
EDUC3032	Drama Teaching in Early Childhood
EDUC3033	Education Planning and Creation of Learning Environment
EDUC3035	Digital Resources Application In Kindergarten
EDUC3036	Assessment and Improvement of Effective Teacher-child Interactions in Early Years Education 0-8
EDUC4015	Teaching in Inclusive Settings

\* Students can also choose any courses offered by all bachelor's degree programmes of UM.

## FACULTY OF EDUCATION

# Bachelor's Degree Programmes

## Bachelor of Education

### • Primary Education

Year I	Credits
EDUC1000 Introduction to Education	3
EDUC1047 Theories of Curriculum & Instruction	3
Community & Peer Education Courses	2
Languages & Skills Courses	12
4 General Education Courses	12
Required Elective Course (1 out of 3):	3
EDUC1015 Physical Education I – Games Learning and Fundamental Movement Exercises for Children	
EDUC1054 Musicianship I	
EDUC1060 Visual Art I: Exploration and Discovery	
1 Free Elective Course	3
<b>Total Credits:</b>	<b>38</b>

Year II	Credits
EDUC2001 Sociology of Education	3
EDUC2003 Educational Psychology	3
EDUC2033 Primary Mathematics Teaching Skills and Principles	3
EDUC2034 The Development of Mathematics Interest, Concepts, and Key Ideas for Primary Mathematics	3
EDUC2035 Child Development	3
Community & Peer Education Course	1
Languages & Skills Courses	3
2 General Education Courses	6
Required Elective Course (1 out of 3):	3
EDUC2036 Physical Education II – Sport Education and Exercises Habit Development for Young Adolescent	
EDUC2063 Musicianship II	
EDUC2066 Visual Art II: Theory and Practice	
Required Elective Course (1 out of 2):	3
EDUC2041 English Grammar	
EDUC2044 Guided Chinese Reading and Writing	

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Required Elective Course (1 out of 2):	3
EDUC2042     English Phonology	
EDUC2047     Guided Reading and Teaching of Chinese Prose and Poet	

2 Free Elective Courses	6
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<b>Total Credits:</b>	<b>40</b>
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<b>Year III</b>	<b>Credits</b>
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EDUC3000	Integrating IT into Teaching and Learning	3
EDUC3004	Introduction to Special Education	3
EDUC3037	Curriculum and Instruction of Primary Mathematics	3
EDUC3039	Teaching of Social Studies in Primary Schools	3
EDUC3044	Classroom Management	3
EDUC3049	Teaching of Science and Technology	3
EDUC3062	Educational Probation (Internship)	1

2 General Education Courses	6
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Required Elective Course (1 out of 2):	3
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EDUC3040	Chinese Curriculum and Course Materials in Primary Education
EDUC3047	Teaching of English in Primary Schools I

Required Elective Course (1 out of 2):	3
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EDUC3038	Teaching of Chinese in Primary Schools
EDUC3048	Teaching of English in Primary Schools II

3 Free Elective Courses	9
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<b>Total Credits:</b>	<b>40</b>
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<b>Year IV</b>	<b>Credits</b>
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EDUC3006	Teacher Ethics and Teacher Professional Development	3
EDUC4000	School Counselling and Guidance	3
EDUC4004	Supervised Teaching and School Experience	6

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<b>Total Credits:</b>	<b>12</b>
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<b>Grand Total:</b>	<b>Credits 130</b>
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**Free Elective Courses \***

EDUC1001	Philosophy of Education
EDUC1016	Appreciation and Teaching of Children's Literature
EDUC1017	Thinking and Learning with IT
EDUC1018	Teaching of Traditional Chinese Culture
EDUC1019	Teaching and Learning National Education
EDUC1020	Ways of Seeing: Drawing as Inquiry

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EDUC1021	Quality Physical Education
EDUC1023	Introduction to Applied English Studies
EDUC1024	Introduction to English Language Teaching
EDUC1055	Understanding Visual Culture
EDUC2000	Moral Education
EDUC2037	Integrated Activity Teaching and Design For Primary Education
EDUC2038	Elementary Mathematics Teaching & Research
EDUC2040	Design and Analysis of Learning Materials for Elementary Social Studies
EDUC2043	The Research of the Teaching Chinese in Mandarin Chinese
EDUC2045	Teaching of Physical Education
EDUC2046	Teaching of Music: Elementary General Music Methods
EDUC3001	Educational Administration
EDUC3002	Educational Research
EDUC3036	Assessment and Improvement of Effective Teacher - Child Interactions in Early Years Education 0-8
EDUC3043	Teaching of Visual Art
EDUC3045	Research in Mathematics Education
EDUC3046	Advanced Piano Accompaniment for General Music Classroom
EDUC3058	Orff and Kodaly Music Teaching Methods
EDUC4017	Physical Education III

\* Students can also choose any courses offered by all bachelor's degree programmes of UM.

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## Course Description

### **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: APAC1003

### **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: APAC1003

### **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

**APAC2006 ORGANIC CHEMISTRY: FOUNDATIONS OF CHEMICAL REACTIVITY AND SYNTHESIS**

Introduction of the structures, properties, preparation, and reactions of a vast array of molecules that we call organic compounds. Introduction of concepts that structure determine properties leading to exploration of the subject in a systematic manner through understanding of classes and functionalities and reaction mechanism. Materials learnt in earlier chapter will serve as building blocks for the topics in the later chapter. Stereo- and regio-controlled chemical reaction types are introduced.

Pre-requisite: APAC1003

**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 NANO CHEMISTRY**

Introduction of nanomaterials and nanochemistry, including the concept of nanoscale, the band structure and the corresponding characters of nanomaterials, the fabrication, modification and



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application of nanosystem.

Pre-requisite: None

### **APAC3009 POLYMER CHEMISTRY**

Introduction of various classes of polymer compounds, emphasizing polymer chemical reactions and mechanisms of major functionalities and their importance in the area of chemistry. Topics covered include: structure and properties of polymer; condensation polymerization; free radical polymerization; copolymerization; polymerization methods; crystallization and crosslinking of polymer chains; characterization and application of polymer compounds. Related experiments will also be arranged in this course.

Pre-requisite: APAC1003

### **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 (4) education purposes (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 中國文學發展與教育 I  
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 中國文學發展與教育 II  
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、戲劇、小說、新民體）特點、文學流派、文論發展、各家作品等，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 現代語文與教育  
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 古今漢字的教與學 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

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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 19<sup>th</sup> 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 8<sup>th</sup> century to the 19<sup>th</sup> 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 RECREATION - 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 FOUNDAMENTAL 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 傳統文化與教學**

#### **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 國情教育的教與學**

#### **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；另一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.

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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: EDUC1000 and MATH1001

### **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

### **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 現代中文寫作與教學**

#### **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

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**EDUC2005 中國古典散文與教育 I**  
**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 中國古典散文與教育 II**  
**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 文言語法修辭教與學**  
**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, Csikszentmihalyi, 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 21<sup>st</sup> century.

Pre-requisite: None

### **EDUC2011 中國啟蒙教育**

#### **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



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students with insights into examining youth culture in Macao and evaluating existing Macao youth policies.

Pre-requisite: None

### **EDUC2016 古籍導讀與教學**

#### **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，以便對將來教學實踐有幫助。

先修科目：沒有

### **EDUC2017 寫作教學與中華文化**

#### **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 LISTENING AND SPEAKING**

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 幼稚園中文教學**

### **TEACHING OF CHINESE IN KINDERGARTEN**

本課程旨在讓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鷹架幼兒語文能力的發展。

### **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: EDUC1000

### **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

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**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 普通話教學研究****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: EDUC2063

### **EDUC2047 詩文選讀與教學**

#### **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 of learning and assessment for learning.

Pre-requisite: EDUC1022

### **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 中國歷史課程與教學 I**

#### **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，而中國歷史發展過程，亦會涉及，使學生能應付日後在中學教授中國歷史課程之用。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

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teachers.

Pre-requisite: None

## **EDUC2052 中國歷史課程與教學 II**

### **CHINESE HISTORY CURRICULUM AND TEACHING II**

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，而中國歷史發展過程，亦會涉及，使學生能應付日後在中學教授中國歷史課程之用。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

## **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 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 學科教學法 I (中文) 學科教學法 II (中文) SUBJECT-BASED TEACHING METHODS I (CHINESE) SUBJECT-BASED TEACHING METHODS 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： EDUC1047 為 EDUC3007 的先修科目

EDUC3007 為 EDUC3008 的先修科目

## **EDUC3009 中國歷代詩詞曲賞析與教學 THE APPRECIATION AND TEACHING OF 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 中國思想史與教育 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 科舉與中國教育 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 中國古代歷史教育  
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入的探索。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。

先修科目：沒有

**EDUC3016 文史通論與閱讀教學  
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 中國現當代文學作品與教學  
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鑒賞能力，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: EDUC2018 and EDUC2019

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### **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.

Pre-requisite: EDUC2001 and EDUC2003

### **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: EDUC1000 and EDUC1013

### **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.

Pre-requisite: None

### **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

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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
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8. Geometry Teaching Practice and example
  9. Examples and lesson design of Calculation topics
  10. The school observation
  11. Teaching Practice Sharing
- Pre-requisite: EDUC2033

### **EDUC3038 小學中文教學**

#### **TEACHING OF CHINESE IN PRIMARY SCHOOLS**

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 小學中文課程與教材**

#### **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課程之認識及專業修養，並進一步提高其教學水平。

先修科目: EDUC1000

### **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.

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Pre-requisite: EDUC2001 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 OF ENGLISH IN PRIMARY SCHOOLS 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 OF ENGLISH IN PRIMARY SCHOOLS 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: EDUC3050

### **EDUC3052 中學歷史教學**

#### **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。本課程的內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。

先修科目：沒有

### **EDUC3053 世界歷史課程與教學**

#### **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。

先修科目：沒有

### **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: APAC1001 and EDUC1000

### **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



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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: EDUC3056

### **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 will 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 activities 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

### **EDUC3062 EDUCATIONAL PROBATION (INTERNSHIP)**

The one-week course is designed for pre-service teachers (Primary Education Program) to observe how homeroom teachers manage classrooms and what and how subject-based instructional practices are implemented in grades 1 to 6 in the Greater Bay Area. Student teachers must follow the professional ethics of school teachers and the regulations of UM and the internship schools during the educational probation. In most cases, primary school teachers need to teach more than one subject when necessary. In order to expand student teachers' abilities in teaching different subjects, the subjects/classrooms will be randomly assigned to student teachers for teaching observation.

Note. Students' language proficiency will be considered. English stream students may be assigned to observe non-English teaching classrooms.

Pre-requisite: EDUC3000, EDUC3004, EDUC3037, EDUC3040 or EDUC3047

### **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 中學中文章法教學**

#### **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法的能力。

先修科目：沒有

### **EDUC4007 論孟與教育**

#### **ANALECTS OF CONFUCIUS AND THE WORKS OF MENCIOUS**

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真實的理解與真切的體驗。

先修科目：沒有

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**EDUC4008 中國教育史專題**  
**TOPICS IN 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 文學評論與教學**  
**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 明清小說與教育**  
**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: EDUC2022 and EDUC2023

**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 中國近現代史教學**  
**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。

先修科目：沒有

**EDUC4021 澳門史教學**  
**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。

先修科目：沒有

**EDUC6001 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 (4) education purposes (teleology), and (5) the relationship between teachers and learners. It also discusses issues about education systems/structure, curriculums and instruction, moral education, educational management, etc.

Pre-requisite: None

**EDUC6002 EDUCATIONAL PSYCHOLOGY**

Educational Psychology includes both psychology and education. The course aims to introduce theories and practices of educational psychology, which includes (1) the fundamentals of educational psychology, (2) the relationship between psychology and education, and the (3) application of educational psychology.

Pre-requisite: None

**EDPC6003 TEACHER ETHICS**

The aim of this course is to prepare students to develop teachers' professional morality. 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

**EDUC6004 TEACHING PRACTICE**

Though classroom observing, microteaching, listening to their supervisors' guidance on the design of teaching activities before their teaching practice, and discussing thoroughly their performance after teaching practice and how to improve it in the future, etc, the teacher-trainees' teaching professional standards can be improved continuously.

Pre-requisite: None

**EDUC6011 CLASSROOM ASSESSMENT**

This course focus on the necessary knowledge of classroom assessment ranging from, but not limited to, validity and reliability, functions, forms, instruments, design of various assessment tools. Both traditional assessment methods such as multiple choices, fill-in-blanks, cloze measures, essays, etc, and alternative assessment methods such as portfolio, journals, etc, will be included.

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Important concepts such as formative Vs summative; high Vs low stake assessment will be covered. The importance of the coherence among instructional objectives, classroom teaching and assessment will be emphasized.

Pre-requisite: None

### **EDUC6012 INFORMATION TECHNOLOGY IN EDUCATION**

This course, aiming to enhance students' understanding of using information technology in teaching and learning, provide an overview of contemporary technology, with emphasis on technology relating to education in schools. It examines the current methodologies and issues in integrating different technologies in teaching and learning contexts.

Pre-requisite: None

### **EDUC6101 COUNSELING AND GUIDANCE**

This course aims to introduce school counseling theories and classroom management techniques. It covers basic counseling knowledge and skills to facilitate the personal growth of teachers and their students. Furthermore, the course encourages teachers to practise their counseling skills within their school settings.

Pre-requisite: None

### **EDUC6102 CURRICULUM AND PEDAGOGY (SUBJECT BASED)**

It aims to provide in-service teachers at secondary level with basic concepts and principles of curriculum and instruction. Topics include curriculum development and implementation, teaching principles and strategies, teaching evaluation, and classroom conditions that influence teaching and learning. This course features subject based characteristics. Students will be led to discuss the issues and problems related with these topics in their subjects (such as Chinese, English, mathematics, and science).

Pre-requisite: None

### **EDUC6201 CURRICULUM AND PEDAGOGY**

It aims to provide in-service teachers at primary level with basic concepts and principles of curriculum and instruction. Topics include curriculum development and implementation, teaching principles and strategies, teaching evaluation, and classroom conditions that influence teaching and learning. Students will be helped to link theories of curriculum and pedagogy with their teaching practice in setting objectives, selecting and organizing contents, and implementing and evaluating curriculum in various subjects they teach in primary schools.

Pre-requisite: None

### **EDUC6202 SCHOOL COUNSELING 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

### **EDUC6301 HEALTH AND CARE IN EARLY CHILDHOOD**

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

### **EDUC6302 EARLY CHILDHOOD DEVELOPMENT**

The aim of this course is to 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 role that genetics play in human development, as well as some common childhood disorders. Different theories of child development are introduced to provide students with an all-rounded knowledge of children's united growth which lays the foundation for effective teaching and learning.

Pre-requisite: None

### **EDUC6303 INTEGRATED LEARNING**

This course will focus on the integrated learning approach to curriculum design and development for pre-schools and explore the meanings, functions, teaching processes, designs, practices and evaluations related to the integration education. Rather than stressing basic concepts and theoretical foundation, this course will emphasize the application of theories in practice, with the aim to train students to become effective teachers who can apply principles of integrated learning to lesson planning.

Pre-requisite: None

### **EDUC6501 EDUCATIONAL ADMINISTRATION**

This course allows students to understand the basic concepts of educational administration. Students will study and discuss Macao 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 Macao.

Pre-requisite: None

### **EDUC6502 INTRODUCTION TO SPECIAL EDUCATION**

This course aims at providing students with knowledge, understanding and care of pupils with special needs so as to further their education professional knowledge and development. By means of different teaching activities, students will have better understanding of (1) definitions, characteristics and causes of pupils with various special needs; (2) educational emphases and needs of these pupils; (3) contemporary situations of special education in Macao, and skill-training and employment situations of teenagers; and (4) the latest trends in contemporary special education.

Pre-requisite: None

### **EDUC6503 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

### **EDUC6504 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

### **EDUC6505 EDUCATIONAL TECHNOLOGY IN EARLY CHILDHOOD SETTINGS**

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).

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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

#### **EDUC6506 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: None

#### **EDUC6507 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

#### **EDUC6508 GUIDANCE AND COUNSELING 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: None

#### **EDUC6509 INCLUSIVE EDUCATION**

This course aims at introducing students to the development, rationale and principles of inclusive education as a foundation of the field, and to the policy, general situation and resources with regard to inclusive education in Macao. The course provides guidelines on various elements of inclusive lessons and classes. The content includes child learning and classroom settings, programme and lesson planning, and assessment and classroom management of children with special needs or behavior problems. In addition, to guard students from workstress as future inclusive teachers, the course will help them develop observation and analysis skills to note differences among young children and to understand children with disabilities in the inclusive classroom. It will also provide students with opportunities to learn how to enrich learning environment with educational resources for special needs and how to work effectively with professional groups and parents.

Pre-requisite: None

### **EDUC7001 RESEARCH METHODS IN EDUCATION**

This course aims at developing in students an understanding of quantitative and qualitative methods of collecting, analyzing, and interpreting data in educational research. Quantitative topics include application of statistical concepts / procedures, graphs, numerical summaries; normal distribution, correlation/regression analyses, probability, statistical inferences for one or two samples, hypothesis tests, chi-square tests, and factor analysis. Qualitative topics include data analyses in case studies, observations, and ethnography studies.

Pre-requisite: None

### **EDUC7051 QUALITATIVE RESEARCH IN EDUCATION**

This is the intermediate master's level course on qualitative method. Students will learn two central issues in qualitative research: 1) design and implement a scientifically valid qualitative study; 2) Analyzing qualitative data. This course will expose students to different paradigms in qualitative research including but not limited to: ethnography, grounded theory, participatory action research, and case study. The purpose of this course is to provide working knowledge to students to conduct qualitative study using various qualitative methods, as well as helping students to understand their limitation.

Pre-requisite: Research method in education

### **EDUC7052 QUANTITATIVE RESEARCH IN EDUCATION**

This is the intermediate master's level course on quantitative method. Students will have the opportunity to learn a variety of statistical methods. The primary methods to be introduced will include: multiple regression, factor analysis, principal component analysis, analysis of variance and covariance. Other advanced statistical technic such as multilevel models, structural equation models, and causal inference models will be introduced. The purpose of this course is to lay the foundation for quantitative analysis of education issues. Practical issues such as analyzing quantitate data with statistical tools will be covered to provide hands-on experience to students.

Pre-requisite: Research method in education

### **EDUC7053 ACTION RESEARCH**

This course provides a foundation for educators to become active inquirers in the day-to-day experiences that occur in a classroom. It explores evidenced-based techniques and strategies that guide instructional decision-making and positively impacts educational practices.

Pre-requisite: None

### **EDUC7101 PRINCIPLES OF CURRICULUM AND INSTRUCTION**

This course aims to provide an overview on the principles and theories of curriculum and instruction. The introduction of these theories and principles provides learners a broad perspective on the basic curriculum questions regarding the purposes, content, design, and structure of educational programmes as well as learning and teaching theories and the relationship between the two.

Pre-requisite: None

### **EDUC7102 CURRICULUM DESIGN AND IMPLEMENTATION**

This course intends to equip learners with the theories and practical skills of designing curriculum and managing curriculum change. The present curriculum design and implementation process in schools/Macao will be discussed and analyzed. Curriculum theories, design, and implementation experiences from other countries/places and possible adaptation will also be explored.

Pre-requisite: None

### **EDUC7103 EVALUATION OF CURRICULUM, INSTRUCTION, AND STUDENT PERFORMANCE**

This course seeks to equip learners with strategies and techniques used in the evaluation of curriculum programmes, instruction, and student performance. The assumptions, strengths, and weaknesses associated with various strategies will be critically analyzed. Learners work through evaluation problems related to particular curriculum programmes and instructional techniques;



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and develop assessment tools appropriate to their teaching assignments. Special attention is given to authentic assessment, performance assessment, portfolios, self-evaluation, and cooperative assessment.

Pre-requisite: None

#### **EDUC7151 SEMINARS ON CURRICULAR ISSUES (SUBJECT-BASED)**

This weekly 3-hour seminar explores current global issues of curriculum, instruction and learning in the subject areas of Chinese, English and Mathematics. In addition, emergent issues of curriculum, instruction and learning in these three subject areas in Macao, China, Taiwan, and Hong Kong will also be discussed.

Pre-requisite: None

#### **EDUC7152 MULTIMEDIA TECHNOLOGY IN INSTRUCTIONAL DESIGN**

This course provides the learners with basic principles and practice in design, development, and production of multimedia instructional material through multimedia laboratory and computerized video editing studio.

Pre-requisite: None

#### **EDUC7153 INTELLIGENCE AND CREATIVITY**

This course covers contemporary theories of intelligence, intellectual development and creativity, and their implications for educational practices and psychological research.

Pre-requisite: None

#### **EDUC7154 MATHEMATICS LEARNING & TEACHING**

Based on Mathematics learning and teaching theories and research findings, the course aims to help student teachers study the basic knowledge of the subject, teaching and learning strategies, methods of assessment and the application of technology in Mathematics teaching and learning.

Pre-requisite: None

#### **EDUC7155 CHINESE LANGUAGE LEARNING & TEACHING**

Based on Chinese Language learning and teaching theories and research findings, the course aims to help student teachers study the basic knowledge of the subject, teaching and learning strategies, methods of assessment and the application of technology in Chinese teaching and learning.

Pre-requisite: None

#### **EDUC7156 SECOND LANGUAGE LEARNING & TEACHING**

Based on Second Language learning and teaching theories and research findings, the course aims to help student teachers study the basic knowledge of the subject, teaching and learning strategies, methods of assessment and the application of technology in Second Language teaching and learning.

Pre-requisite: None

#### **EDUC7156 SECOND LANGUAGE LEARNING & TEACHING (TESOL)**

This graduate level course is designed to provide students with a comprehensive understanding of second language learning and teaching. The course will cover the theoretical foundations of second language acquisition, as well as practical strategies for second language instruction. Topics will include the role of linguistic and cognitive factors in second language development, the impact of culture and context on second language learning, and the use of technology and authentic materials in second language classrooms. Through readings, discussions, and hands-on activities, students will gain knowledge and skills that will enable them to design and implement effective second language instruction in a variety of settings.

Pre-requisite: None

#### **EDUC7157 SCIENCE LEARNING & TEACHING**

Based on Science learning and teaching theories and research findings, the course aims to help

student teachers study the basic knowledge of the subject, teaching and learning strategies, methods of assessment and the application of technology in Science teaching and learning.

Pre-requisite: None

### **EDUC7158 SOCIAL STUDIES LEARNING & TEACHING**

Based on Social Studies learning and teaching theories and research findings, the course aims to help student teachers study the basic knowledge of the subject, teaching and learning strategies, methods of assessment and the application of technology in Social Studies teaching and learning.

Pre-requisite: None

### **EDUC7159 MORAL DEVELOPMENT & TEACHING**

Based on moral development and teaching theories and research findings, the course aims to equip student teachers with the basic knowledge of the subject, teaching and learning strategies, methods of assessment and the application of technology in moral education.

Pre-requisite: None

### **EDUC7160 CURRICULUM & INSTRUCTIONAL LEADERSHIP**

Following the threads of major curriculum and instruction theories, this course explores curriculum and instructional leadership in practice and theory, schools as learning communities and the innovation of curriculum and school culture for purpose of improving teacher quality and learning effectiveness.

Pre-requisite: None

### **EDUC7161 SPECIAL TOPICS IN CURRICULUM & INSTRUCTION**

This graduate level course covers the current and new topics, new trends, and new research findings, in the area of curriculum and instruction. The actual topics may differ as this course is offered at different times, to reflect the new developments and directions of this field. The graduate level course will expose the students to the new thoughts, new developments.

Pre-requisite: None

## **SCIENCE EDUCATION**

### **EDUC7162 THEORIES OF SCIENCE TEACHING AND LEARNING**

This course aims to provide students with concepts, theories and principles of science teaching and learning, which are necessary for their teaching practice and future studies. Topics of this course include nature of science, theories of science learning, conception changes in science learning, methods and strategies of science teaching, scientific inquiry, practical work in science teaching, ICT in science teaching. Studies on exemplary teaching practice will be emphasized in this course.

Pre-requisite: None

### **EDUC7163 STUDIES ON SCIENCE CURRICULUM**

The course aims to provide students with these topics in the field of science curriculum development: historical perspectives of science curriculum, science curriculum in social contexts, principles and theories of science development, patterns of science curriculum development, and analysis of science curriculum. Special attention will be put on the practice of implementing the current science curricula and teaching materials in Macao and China. The current research tendency of science curriculum in international literatures will also be involved.

Pre-requisite: None

### **EDUC7164 THE EVALUATION OF SCIENCE TEACHING AND LEARNING**

This course aims to equip students with the concepts, theories, and practical skills of conducting

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evaluations on science teaching and learning. Topics include assessment and evaluation in science teaching, theoretical assumptions of evaluation in science teaching and learning, various evaluation techniques in science teaching and learning, science curriculum reform and evaluation, science teacher development and evaluation. Emphases will be put on authentic assessment and performance assessment in science teaching and learning. The large scale evaluation programmes, such as TIMSS, PISA, will be involved in this course.

Pre-requisite: None

### **EDUC7165 PROFESSIONAL DEVELOPMENT OF SCIENCE TEACHERS**

This course is about the concepts, theories and practice of science teacher development with the purpose of laying a foundation for students' teaching practice and future studies. Topics include the learning of science teachers, science teachers' conception of teaching and learning, pedagogical content of knowledge in science teaching, school-based research and science teacher development, action research and science teacher development, science teachers' narratives, case studies of science teacher development, research tendency of science teacher development.

Pre-requisite: None

## **INFORMATION AND COMMUNICATION TECHNOLOGY IN EDUCATION**

### **EDUC7166 ISSUES IN DISTANCE EDUCATION**

The purpose of this course is to provide students with an overview of distance education theories in order to enhance students understanding of the communication tools and the different learning styles of distance education and develop students' understanding of the instructional design models used in developing distance learning courses. Students will be given an opportunity to learn various tools concentrating on different aspects of the technology: text, graphics, audio, animation, and video. Students will work in groups and take on different roles. The contexts for this course will be primarily interactive, collaborative, multi-disciplinary, and student-centered. A large portion of this course will be devoted to hands-on activities.

Pre-requisite: None

### **EDUC7167 MULTIMEDIA DESIGN AND PRACTICE**

The course is primarily concerned with the effective use of multimedia technologies in an educational context. It will examine the challenges involved in current methodology, research and other issues in applying multimedia in education. The practical and theoretical aspects of integrating various applications will also be examined in the context of the curriculum.

Pre-requisite: None

### **EDUC7168 TRENDS & ISSUES IN INSTRUCTIONAL TECHNOLOGY**

This course involves an examination of current issues in instructional technology. The issues include pedagogy, teaching and learning, historical development, policies, and research methodology in instructional technology etc. Learners are required participate actively in this course. Case studies, group discussion and seminar presentation will be used.

Pre-requisite: None

### **EDUC7169 INTEGRATING TECHNOLOGY FOR TEACHING AND LEARNING**

The purpose of this course is to engage students in the theory, development and applications of learning technologies in teaching and learning context. An overview of theories in technology integrated teaching and learning will be discussed. Students are expected to form groups of learning communities that will involve in technology integration projects. They will be given opportunities to explore and learn new technology in supporting and transforming instruction and learning.

Pre-requisite: None

## **CHINESE LANGUAGE EDUCATION**

### **EDUC7170 SECONDARY SCHOOL CHINESE LANGUAGE CURRICULUM DESIGN AND TEACHING**

This course explicates the design and teaching of secondary school Chinese language curriculum, in order to enhance students' knowledge about Chinese language curriculum design and teaching, and to heighten ability for and research interest in Chinese language teaching. Topics include basic concepts, categories, theories and design of curriculum; significance, objectives and techniques of teaching; principles and preparation of teaching design; preparation of teaching media; curriculum evaluation and teaching assessment; professional behavior of teachers.

Pre-requisite: None

### **EDUC7171 TOPIC STUDIES IN CHINESE WRITING**

This course explicates and analyses the functions, theories and techniques of Chinese communication, in order to deepen students' knowledge of, and ability to apply, Chinese writing for the sake of teaching. Topics include connection between characteristics of the Chinese language and Chinese writing, sociolinguistics theories and phenomena of Chinese writing, writing of various kinds of Chinese practical writing, similarities and differences between practical writings prevailing in Macao, Hong Kong, Taiwan and Mainland China.

Pre-requisite: None

### **EDUC7172 APPRECIATION AND TEACHING OF CHINESE LITERATURE**

This course critically introduces and analyses Chinese literature, and cultivates the ability to appreciate and teach it on the part of students. Teaching materials are mainly classics from Pre-Qin Dynasty to the 20th Century. The teaching mode is to guide students to read, appreciate, and analyse genres such as poetry, prose, fiction and opera, and to sum up the teaching points concerned such as writing style, theme manifestation, story tension, characterization, and plot organization. Upon completion of this course, students are expected to be able to better appreciate and evaluate literature and to make use of literary works to design various kinds of teaching activities.

Pre-requisite: None

### **EDUC7182 LANGUAGE ARTS TOPIC STUDIES AND TEACHING**

This course explicates significance, theories and skills of language arts, in order to strengthen students' understanding of language arts, to help them grasp techniques of language expression, to enhance their ability for language communication, and to heighten teaching effects. Topics include techniques of language expression, teaching language of teachers, topics, skills and manners of public speaking, public speaking teaching, topic assignment, forms and techniques of debate, and debate teaching.

Pre-requisite: None

## **MATHEMATICS EDUCATION**

### **EDUC7174 STUDIES ON MATHEMATICS CURRICULUM**

The course aims to provide students with a critical study of current issues, trends, and the design and evaluation of mathematics curriculum. Topics will include: historical development of mathematics curriculum, principles and theories of mathematics development, patterns of mathematics curriculum development, alignment of mathematics curricula with standards, and analyses and comparisons of mathematics curricula. Special attention will be put on the practice of implementing the current mathematics curricula and teaching materials in Macao and China for the teaching tracks. The current research tendency of mathematics curriculum in international literatures will also be involved, for example, some advanced mathematics topics and mathematics projects.

Pre-requisite: None

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### **EDUC7175 THEORIES OF MATHEMATICS TEACHING AND LEARNING**

This course aims to provide students with concepts, theories, and principles of mathematics teaching, which are necessary for their teaching practice and further studies. Attention will be paid to the key ideas in four mathematics content areas (i.e., number and operations, algebra, geometry, and data analysis and probability) at both elementary and secondary levels, effective teaching strategies for implementing student-centered, content-based and technology-enhanced instruction. Lesson studies and exemplary teaching designs will also be emphasized.

Pre-requisite: None

### **EDUC7176 THE EVALUATION OF MATHEMATICS TEACHING AND LEARNING**

This course aims to equip students with the concepts, theories, and practical skills of conducting evaluations on mathematics teaching and learning. Topics will include: assessment and evaluation in mathematics teaching, theoretical assumptions of evaluation in mathematics teaching and learning, various evaluation techniques in mathematics teaching and learning, mathematics curriculum reform and evaluation, mathematics teacher development and evaluation. Emphases will be put on authentic assessment including discourse and performance assessment in mathematics classrooms. The large scale evaluation programmes, such as TIMSS, PISA, will be also covered.

Pre-requisite: None

### **EDUC7177 PREPARATION AND PROFESSIONAL DEVELOPMENT OF MATHEMATICS TEACHERS**

This course is about the concepts, theories and practice of mathematics teacher development with the purpose of laying a foundation for students' teaching practice and further studies. Topics include: mathematics teachers' subject knowledge and pedagogical content knowledge, teachers' conceptions (or beliefs) of effective mathematics teaching and learning, school-based research and mathematics teachers' professional development, action research and mathematics teacher development, mathematics teachers' narratives, case studies of mathematics teacher development, research tendency of mathematics teacher development.

Pre-requisite: None

## **ENGLISH LANGUAGE EDUCATION**

### **EDUC7179 CURRICULUM DESIGN AND MATERIALS DEVELOPMENT FOR ENGLISH TEACHERS**

This course is designed to acquaint students with the strategies and principles of materials development for English language teaching. It aims to help students develop an understanding of the process of second language curriculum development in general, and of second language course design and materials preparation in particular. Theoretical discussions of different language learning models and instructional principles, and various approaches to curriculum design and materials development will provide a basis for analysis. Course participants will have opportunities to engage in critical reflection on both theoretical and practical issues in second language curriculum design and materials development, as well as develop practical experience in designing English language curriculum and materials relevant to specific student populations.

Pre-requisite: None

### **EDUC7180 PEDAGOGICAL GRAMMAR FOR ENGLISH LANGUAGE TEACHERS**

This course provides opportunities for students to develop an understanding of the pedagogical grammar of the English language, and apply this knowledge in learning and teaching in a second language context. The course attempts to analyze grammar from an integrated perspective, drawing insights from both formalist and functional approaches. It also examines issues such as the extent to which ESL or EFL teachers should focus on rules or the regularities of language or they should focus more on vocabulary and how it affects grammaticality. Pedagogical implications link key grammatical phenomena to real communicative events in the context of school English classrooms.

Pre-requisite: None

**EDUC7180 PEDAGOGICAL GRAMMAR FOR ENGLISH LANGUAGE TEACHERS (TESOL)**

This graduate-level pedagogical grammar course provides opportunities for you to develop more profound grammatical knowledge of the English language, as well as pedagogical knowledge of innovative strategies and methodologies in teaching grammar in future ESL/EFL classrooms. Specific attention focuses on syntactical generative process of sentence structures, structures of clauses and phrases, grammar teaching approaches and techniques, evaluation of existing grammar resources and adaptation of these materials to better meet students' learning needs.

Pre-requisite: None

**EDUC7181 TEACHING SECOND LANGUAGE WRITING**

This course provides opportunities to explore various perspectives on theory, research, and pedagogical applications in second language writing. The course aims to equip students with strategies to help second language learners develop the skills necessary for effective writing. Topics include the nature of L2 writing, approaches to teaching L2 writing, L2 writing processes, features of L2 writers' texts, beliefs and attitudes of L2 writers, feedback on L2 writing, L2 writing assessment, contexts for L2 writing, and L2 writing teacher education. Course participants will be helped to make connections between theory and practice and understand key issues that underlie second language writing, and acquire skills and techniques for planning, teaching and assessing second language writing.

Pre-requisite: None

**EDUC7183 SECOND LANGUAGE VOCABULARY ACQUISITION AND LANGUAGE TEACHING**

This course provides opportunities to study about vocabulary in second language learning and teaching, including questions regarding how to select vocabulary for direct instruction, factors that influence incidental acquisition, strategies for deliberate learning and teaching, and assessment of vocabulary knowledge. A survey of pivotal published second language vocabulary acquisition research is provided for the purpose of evaluating the quality of the research and considering its practical implications for teaching.

Pre-requisite: None

**EDUC7201 THEORIES OF EDUCATIONAL ADMINISTRATION**

This course addresses concepts, theories and current developments in educational administration. Educational organizations and their leadership, motivation, communication and decision making, as well as their development and effectiveness are examined.

Pre-requisite: None

**EDUC7202 EDUCATIONAL LAW AND POLICY ANALYSIS**

This course addresses Educational laws, regulations and policies. The impacts of these laws, regulations and policies upon schools are analysed and examined. Students are encouraged to make suggestions about how to revise some Macao educational laws and policies.

Pre-requisite: None

**EDUC7203 EDUCATION AND DEVELOPMENT**

This course emphasizes on application of theories in Social Sciences to education and socio-economic development. Issues of discussion include: human capital theory, equality of opportunities, modernization, dependency theory, cultural imperialism, integration of the capitalist world system, and postmodernism.

Pre-requisite: None

**EDUC7251 ORGANIZATIONAL CHANGE AND DEVELOPMENT IN SCHOOLS**

This course is a critical analysis of theoretical and practical aspects of organizational change and development in education. Various perspectives and strategies innovated and used by educational institutions to cope with organizational change and enhance development will be introduced. In-depth case analysis will be provided to illustrate applications of strategies of school effectiveness, school-based management, and organizational innovation.

Pre-requisite: None

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**EDUC7252 SEMINAR OF SOCIAL CHANGE AND EDUCATIONAL REFORMS**

This course looks at educational institutionalization and re-institutionalization through the lens of social change over time. First of all, it will trace the social origins and social constructions of modern educational systems since the Protestant Reformation came into effect in the 16<sup>th</sup> century Europe. Secondly, it will focus much more attention on the landmarks of educational expansions and ameliorations around and after World War II. And finally, special efforts will be directed to issues of education in a so-called individualized society of late-capitalism in early 21<sup>st</sup> century. Scholars with specialties in related topics of this course will be invited to give talks and interchange with the class.

Pre-requisite: None

**EDUC7253 SCHOOL ADMINISTRATION & MANAGEMENT**

The course covers the practical aspects of school administration and management, with emphasis on personnel, finance and other resources, in order to equip students with a system of strategies for school expansion, leadership, administration, public relations, professional development and parental participation.

Pre-requisite: None

**EDUC7254 SOCIOLOGICAL ANALYSIS OF EDUCATIONAL POLICY**

This course focuses on a sociological study of the formulation of educational policy, taking into account historical, political, economic, social, cultural and religious factors, and analyzes the process of educational policies being transformed into law and action plans.

Pre-requisite: None

**EDUC7255 GROUP DYNAMICS**

This course aims to help student teachers explore, from a socio-psychological aspect, the dynamics of teaching and learning in classrooms and schools as groups, norms and expectations, integration and disintegration, cooperation and conflicts, etc, and the possible ways to generate group dynamics through communication and coordination.

Pre-requisite: None

**EDUC7256 COMPARATIVE EDUCATION**

While many of the educational practices are considered embedded in local context, there is increasing volume of conversations on educational issues globally. This course will take students to examine a series of critical educational issues from an international and comparative lens. Students will join the discussion on topics such as: accountability movement in educational management, globalized educational standard, teacher professional development, global education development agenda such as Education For All, etc. The aim of this course is to connect students with educational development discourse globally. The instructor will help students to develop awareness and critical thoughts of on-going debate related to educational equality, efficiency, and excellence.

Pre-requisite: None

**EDUC7257 SPECIAL TOPICS IN EDUCATIONAL ADMINISTRATION**

This graduate level course covers the current and new topics, new trends, and new research findings, in the area of educational administration. The actual topics may differ as this course is offered at different times, to reflect the new developments and directions of this field. The graduate level course will expose the students to the new thoughts, new developments, more recent research and practice in the area of educational administration.

Pre-requisite: None

**EDUC7301 THEORIES AND STUDIES OF CHILD DEVELOPMENT**

Consolidates knowledge on human development and its ecological contexts by highlighting the developmental stages of human beings at different stages of the life-span. Introduces the recent theories on human development that extend the classic theories on human development, social movements and their effects on human development. Emphasizes special features during the

transitional periods from one stage to the next and the critical role that childhood plays in the later developmental stages. Discussions will also examine the ways in which different societies view human development and the issues pertaining to the culture and cognition of human development.  
Pre-requisite: None

### **EDUC7302 COGNITION AND LEARNING IN THE EARLY YEARS**

Provides students with an understanding of children's cognitive development and its implication on learning. Discusses theories on children's cognition such as those on children's memory system, what constitutes to children's conceptual changes, children's problem solving strategies and their sensory and perceptual system development. Overviews selected contemporary approaches such as topics on neuro-psychology, namely brain anatomy, brain development, the social brain and the effects of gender, culture, disorders, and life experiences on shaping a brain will be covered. Examines parents' influence and the roles of adult and child interactions on children's learning. This course will also link theory and practice by examining how young children learn and the role that early education plays in it.  
Pre-requisite: None

### **EDUC7303 CHILD PLAY STUDIES**

The benefits of play have been associated with improvements in, for example, exploration and creativity, parent child bonds and healthy child development. This course will cover a range of international perspectives of play including the diverse interpretations of play, philosophical rationales underpinning play, and practices of play. In particular, the contemporary approaches and research methods to understanding children's play, the arguments for and against play as curriculum and/or approach, the issues concerning play advocacy and policy-making, as well as the possibility of promoting context appropriate play practice cross-culturally will be provided.  
Pre-requisite: None

### **EDUC7304 EARLY CHILDHOOD PROGRAMME QUALITY EVALUATION**

Introduces indicators and procedures used in Macao, other Chinese regions and beyond, to assess the quality of provisions in kindergartens and nurseries. Highlights the importance that evaluation will not only be focused on the organization and personnel, curriculum and pedagogy, physical environment and resources, but also on the clients they serve, including parents, babies and young children. The aim of assessment is to build up synergy and capacity for the continual improvement of services rendered to its clients.  
Pre-requisite: None

### **EDUC7353 CHILD LANGUAGE LITERACY DEVELOPMENT**

This course provides an in-depth understanding of child language and literacy development from infancy through the adolescent years. Main focus will be endogenous linguistic and cognitive correlates of literacy acquisition, including letter-sound knowledge, phonology, morphology, grammar, fluency and vocabulary. Exogenous factors, including parenting, educational systems, and culture, will be also discussed. The course will also provide some exposure to the recent research on language and literacy disorders and bilingual literacy acquisition.  
Pre-requisite: None

### **EDUC7354 CHILD AND FAMILY EDUCATION**

This course is parent-oriented, children-oriented, community-oriented and school-oriented, and will have students explore what are effective parents, how to promote stable marriage relationship and understand its impacts on children's development, and why good ethics can promote better relationships among family members. It will also cover the methods of helping children understand their roles in a family, the use of the community-based resources and the importance of home-school relationship in early childhood education and family education.  
Pre-requisite: None



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**EDUC7355 SPECIAL TOPICS IN EARLY CHILDHOOD EDUCATION AND CHILD DEVELOPMENT**

This graduate level course covers the current and new topics, new trends, and new research findings, in the area of early childhood education and child development. The actual topics may differ as this course is offered at different times, to reflect the new developments and directions of this field. The graduate level course will expose the students to the new thoughts, new developments, more recent research and practice in the area of early childhood education and child development.

Pre-requisite: None

**EDUC7356 STUDIES ON PRESCHOOL INCLUSION**

Introduces latest research findings on serving children with special needs in inclusive early childhood settings. Highlights knowledge and skills to initiate and sustain quality inclusion programmes in Macao, other Chinese regions and beyond. By means of different activities such as synthesizing research findings and observing student-teacher interactions in inclusive classrooms, students will gain a deep understanding of philosophical, moral and legal foundations for early childhood inclusion. Moreover, student will identify and master effective strategies for building a high quality inclusion programmes such as making curriculum modifications and embedding learning opportunities in play and routine activities. Finally, student will prioritize targeted intervention services for individual child.

Pre-requisite: None

**EDUC7401 EDUCATIONAL AND PSYCHOLOGICAL ASSESSMENT**

This course introduces the concepts, principles, and methods in educational and psychological measurement to students. Topics include reliability, validity, item analysis, scores, and score reports. Emphasis is on construction, interpretation, use, and evaluation of assessments regarding achievement, aptitude, interests, attitudes, personality, and exceptionality. The integration of assessment data into a comprehensive psychological report including associated recommendations for intervention is an essential component of this course.

Pre-requisite: None

**EDPS7402 PSYCHOLOGY OF LEARNING**

This course introduces psychological theories pertinent to the learning of students, and current views of how people learn. Particular focus is placed on linking theories to classroom situations. Topics included are: behavioristic, information- processing, constructivistic, and humanistic theories of learning.

Pre-requisite: None

**EDUC7403 ADVANCED DEVELOPMENTAL PSYCHOLOGY**

This course focuses on an integrated study of human development across the life span with implications for educational psychology. It aims at familiarizing students with current state of knowledge and major theories of human development with particular emphasis on childhood and adolescence. The interrelationship among biological, social-psychological, and educational factors that influence human development will be examined. In particular the influence of Chinese culture and context on development during the childhood and adolescence will be discussed.

Pre-requisite: None

**EDUC7451 MOTIVATION AND LEARNING**

This course explores how motivational principles can be applied to promote learning and instruction. Motivation topics may include achievement motivation, extrinsic and intrinsic motivation, attribution, goals and needs, interests, beliefs and values.

Pre-requisite: None

**EDUC7452 PSYCHOLOGY OF INSTRUCTION**

This is a course in the application of theory and research in psychology to the analysis and design of teaching and learning. Instructional theories and models are introduced to meet the learning of

diverse topics by different learners. Technology integration in the design and development of instruction is also explored.

Pre-requisite: None

#### **EDUC7453 LEARNING DIFFICULTIES AND GUIDANCE**

This course focuses on studying the characteristics and the causes of learning difficulties. The content includes a study of psychological characteristics of learning difficulties, diagnostic methods and tools, how to design individual educational programmes and provide psychological and learning guidance to students with learning difficulties.

Pre-requisite: None

#### **EDUC7454 EDUCATIONAL DIAGNOSIS AND INTERVENTIONS**

This course provides an overview of theories, research, and practice on educational diagnosis and intervention, with an emphasis on individuals from early childhood to adolescence. The goal of this course is for students to understand the theories, implement the educational diagnosis, and give consultation to teachers for preventing academic, emotional, behavioral, and social problems among the students in primary and secondary schools.

Pre-requisite: Educational & Psychological Assessment

#### **EDUC7455 BEHAVIORAL AND SOCIAL PROBLEMS AND GUIDANCE**

This course provides an introduction on the characteristics of children/adolescents with emotional, behavioral, and social problems. The content will focus on how to implement intervention programmes for those children and adolescents in school settings.

Pre-requisite: None

#### **EDUC7456 TEACHING STUDENTS WITH ATTENTION DEFICIT AND HYPERACTIVITY DISORDER**

This course is designed to help educators work with students with ADHD in their inclusive classroom. The course will further define the symptoms, characteristics and treatment of ADHD, and offer strategies to use within the classroom and with parents.

Pre-requisite: None

#### **EDUC7457 SPECIAL TOPICS IN EDUCATIONAL PSYCHOLOGY**

This graduate level course covers the current and new topics, new trends, and new research findings, in the area of educational psychology. The actual topics may differ as this course is offered at different times, to reflect the new developments and directions of this field. The graduate level course will expose the students to the new thoughts, new developments, more recent research and practice in the area of educational psychology.

Pre-requisite: None

#### **EDUC7501 ADVANCED EXERCISE PSYCHOLOGY**

This programme aims to introduce methods of the application of sport psychology in sport studies and the teaching of physical education. Students will have chances to familiarize with a range of techniques in learning. They will be invited to evaluate critically the sport chosen by different theoretical principles and research support for these procedures. Coaches and physical educators will find useful in this study as it covers the theoretical aspects of sport behavior and the establishment of a knowledge base for sport participation and performance development.

Pre-requisite: None

#### **EDUC7502 CURRICULUM AND TEACHING OF PHYSICAL EDUCATION**

This programme aims to provide participants with an opportunity to explore the socially constructed nature of schooling, curriculum, teaching and learning in the field of physical education and sport studies. Current issues on teachers' work will be investigated. Recent research and theory that examines the roles of teachers in facilitating students' learning will be reviewed and critiqued. The programme covers a series of core sessions in curriculum planning, assessment, school-based curriculum development, learning and effectiveness in teaching.

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Depending on the professional interests of participants, remaining sessions will be negotiated to ensure that current curriculum in physical education is examined.

Pre-requisite: None

### **EDUC7503    ADVANCED EXERCISE PHYSIOLOGY**

The programme introduces the nature of human body and examines its biological nature to the teaching and learning of physical education. Students will have chances to focus on human anatomy, exercise physiology and its biomechanics principles to development of movement exercises. The programme also aims to promote an understanding of the variety of laboratory and field skills used in the biomechanical assessment of the exercising human. The purpose is to enhance human performance growth in physical education and sport through the knowledge of body science.

Pre-requisite: None

### **EDUC7551    COMPARATIVE PHYSICAL EDUCATION AND SPORT**

This programme explores current programmes of physical education and sport development in various countries of the world and the reasons for their development, similarities and differences as well. Discussions will be concerned with the political, economic and philosophical ramifications affecting the development of physical education and sport programmes. Topics such as amateurism, apartheid, violence and Olympic movement will be included.

Pre-requisite: None

### **EDUC7552    SPORTS, RECREATION AND LEISURE STUDIES**

The programme provides a thorough review of the impact of sport, recreation and leisure to community and its educational processes to an individual's leisure lifestyle development. Different social and recreational theories will be examined. The aim is to enhance the growth of a health society through various physical and sport activities. The programme will also focus on the role and impact of different group dynamic approaches and the awareness of these approaches to professional development in sports, recreation and leisure studies.

Pre-requisite: None

### **EDUC7553    EFFECTIVE LEARNING AND LEARNING IN PHYSICAL EDUCATION**

This programme examines ways in which current understanding of cognitive processes related in knowing and thinking are contributors to the process of learning. Consideration will be given to constructivist and generative approaches in learning and how schema theory facilitates the development of knowledge and problem-solving skill under the perspectives in physical education. Emphasis will also be placed on connections between such knowledge to the learning of physical activities in school. Issues of transfer of learning, creativity and facilitation of self-regulation in the learner will be examined.

Pre-requisite: None

### **EDUC7554    EXERCISE AND NUTRITION**

The course introduces the basic knowledge of nutrition and discusses the interactions between nutrition and exercise. Subject contents relating to diet, energy intake, expenditure, weight control and nutrient supplements for leisure, entertainment or competitions are also addressed. After the course, students will be able to apply related knowledge to serve different people in sports.

Pre-requisite: None

### **EDUC7555    SPORTS SOCIOLOGY**

Sociology and philosophy are the fundamental platform for study of physical education and sport. This programme aims at equipping students with a philosophical mind and serves as tool for the critical examination of the subject. This programme initiates participants into considering current and possible future practice in the teaching of physical education in schools and promotion of sport in society by three sub-disciplines: philosophy, sociology and history in physical education and sport. Apart from a global perspective, the social and historical contexts of mainland China,

Macao and Hong Kong will also be investigated.

Pre-requisite: None

### **EDUC7556 PHYSICAL ACTIVITY AND HEALTH**

This course covers identifying the role of lifestyle behaviors to reach optimal health and well-being. Base on a holistic understanding of health, the principles and the latest research findings will be used to examine human behaviors and factors that affect involvement in regular physical activities.

Pre-requisite: None

### **EDUC7557 SPECIAL TOPICS IN PHYSICAL EDUCATION & SPORT STUDIES**

This course covers the current and new topics, new trends, and new research findings, in the area of physical education and sport studies. The actual topics may differ as this course is offered at different times, to reflect the new developments and directions of this field. In this graduate level course, students will engage in more recent research and practice in the area of physical education and sport studies.

Pre-requisite: None

### **EDUC7601 THEORIES IN COUNSELING PROFESSION**

This course provides an overview of classical and contemporary theories in counseling to consolidate a foundation on which various counseling techniques and services are built. Ethical issues in the counseling profession are also addressed.

Pre-requisite: None

### **EDUC7602 EDUCATIONAL & PSYCHOLOGICAL ASSESSMENT**

This course introduces to students the concepts, principles, and methods in educational/psychological measurement. Topics include reliability, validity, item analysis, scores, score reports (for example grades). Emphasis is on construction, interpretation, use, and evaluation of assessments regarding achievement, aptitude, interests, attitudes, personality, and exceptionality. The integration of assessment data into a comprehensive psychological report including associated recommendations for intervention is an essential component of this course.

Pre-requisite: None

### **EDUC7603 ADVANCED COUNSELING SKILLS**

This course attempts to reinforce students' counseling skills by role-play and demonstrations in a class setting. These micro-counseling sessions will be recorded with the use of audio-visual equipment for later discussions, reflective thinking, critical evaluation by peers and the respective instructor. Students will be closely supervised to advance in confidence, competence, and counseling techniques. The course will also focus on the development and maintenance of the counseling relationship.

Pre-requisite: None

### **EDUC7651 CAREER COUNSELING**

This course introduces students to a variety of career counseling strategies needed to provide guidance for prospective graduates and human resources in the work force within the current context of economic shift, high unemployment and change in job nature. The course also gives an overview of issues in the pursuit of a career such as gender and socio-economic status.

Pre-requisite: None

### **EDUC7652 GROUP COUNSELING**

This course examines both the theory and practice of group counseling. It is a combination of didactic and experiential activities. Uses of groups for growth, prevention, and therapy are explored. Students will learn a basic understanding of group leadership roles, therapeutic factors of group counseling, and stages of group process. They will observe and participate in the dynamics of group interaction.

Pre-requisite: None

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### **EDUC7653 FAMILY COUNSELING**

This course examines the various factors constituting to familial problems such as dissatisfactory marriage, family violence, divorce, and child-abuse. Theories and assessments of different interventions as well as solution-focused and emotion-focused approaches to relationship therapy will be practised through role-play of family interviewing. The course will also overview the shift in the value system within the local context.

Pre-requisite: None

### **EDUC7654 ABNORMAL PSYCHOLOGY IN ADOLESCENCE**

This course will focus on the current issues in adolescent psychopathology. Students will learn to explore how biological, psychological, and sociocultural factors contribute to the development of adolescent psychopathology. It will also discuss the impact of psychopathology on the individual, the family and the community. The examination of etiology, treatment and prevention approaches for adolescence will be included.

Pre-requisite: None

### **EDUC7655 SPECIAL TOPICS IN SCHOOL COUNSELING**

This graduate level course covers the current and new topics, new trends, and new research findings, in the area of school counseling. The actual topics may differ as this course is offered at different times, to reflect the new developments and directions of this field. The graduate level course will expose the students to the new thoughts, new developments, more recent research and practice in the area of school counseling.

Pre-requisite: None

### **EDUC7656 COUNSELING PRACTICUM I**

This course provides students who are training to become school counselors with the opportunity to incorporate the knowledge and skills grown in prior and concurrent learning experiences and apply them in practical settings. Students are expected to complete a minimum of 100 hours of in-direct and direct service with clients under close supervision of an experienced psychologist/counselor. Target clients can be from educational settings or the local community. Individual and group debriefing sessions will be scheduled on a regular basis.

Pre-requisite: None

### **EDUC7657 COUNSELING PRACTICUM II**

This course requires counselors-in-training to participate in advanced individual and group clinical practice with intensive guidance on counseling skills, problem-solving, and interpersonal relationships. Students are expected to further complete a minimum of 100 hours of direct service with clients under close supervision of an experienced psychologist/counselor. Target clients can be from families, educational settings or the local community. Individual and group debriefing sessions will be scheduled on a regular basis.

Pre-requisite: EDUC7656

### **EDUC7701 TEACHER DEVELOPMENT IN TESOL**

In this course, participants will develop a comprehensive and situated understanding about various aspects of language teachers' professional lives, learn about important and updated approaches and strategies about language teacher education, as well as explore how to promote and sustain their professional development as language teachers. Through critical reading and discussion based on assigned materials, video clips and critical cases, and by reflecting on their previous/ongoing learning and teaching experiences, participants will examine their professional values, beliefs and identities and develop professional knowledge and competence to seek and sustain their continuing development in school environments.

Pre-requisite: None

### **EDUC7702 TEACHING READING AND WRITING**

This course provides opportunities to explore various perspectives on theory, research, and pedagogical applications in second language reading and writing. The course aims to equip

students with strategies to help second language learners develop the skills necessary for effective reading and writing. Topics include the nature of L2 reading and writing, approaches to teaching L2 reading and writing, L2 reading and writing processes, features of L2 writers' texts, beliefs and attitudes of L2 readers and writers, feedback on L2 writing, collaborative writing, and assessing reading and writing skills. Course participants will be helped to make connections between theory and practice and understand key issues that underlie second language reading and writing, and acquire skills and techniques for planning, teaching and assessing second language reading and writing.

Pre-requisite: None

### **EDUC7703 LANGUAGE TESTING AND ASSESSMENT**

This course has been designed to suit the needs of MA students in English education to develop a comprehensive and situated understanding of the principles and practices of language testing and assessment. The aims of this course are to highlight key issues in language testing and assessment, review the characteristics of good language tests and provide guidance for constructing valid and reliable language tests and developing appropriate classroom assessment strategies. Both large-scale tests and classroom-based assessment are addressed in this course, covering topics such as teaching and testing, kinds of tests and testing, reliability, validity, washback effect, formative assessment, assessment of/for/as learning, and so forth.

Pre-requisite: None

### **EDUC7704 TEACHING LISTENING AND SPEAKING**

This course examines the construct of listening and speaking by considering theories about spoken English and its learning and use in second language contexts. Through a critical reading of research and scholarly discussions, participants will learn about listening and speaking development from cognitive, social, and discourse perspectives. This knowledge will be applied in evaluating and improving current practices in the teaching and assessment of listening and speaking competence in second language classrooms as well as in understanding the role of listening and speaking in learning at home and in school.

Pre-requisite: None

### **EDUC7705 LANGUAGE AND LINGUISTICS**

This course introduces key concepts and approaches to the study of language and linguistics. It provides an overview, with basic terminology, of the major subfields of linguistics, investigating the nature, history, and structure of language, and how language relates to the mind, society, and education. It provides the basis of investigation in subsequent courses. Students are encouraged to reflect on their own language experience and apply the theories covered in the course to their own linguistic context.

Pre-requisite: None

### **EDUC7751 UNDERSTANDING SECOND LANGUAGE ACQUISITION**

The purpose of this course is to provide an overview of the field of second language acquisition to help students understand how second or foreign languages are acquired or learned. Students will read about major theories of SLA and learn the individual, social, and cognitive factors and processes that affect the acquisition, development, and use of a second or additional language. Students will also learn to carry out interlanguage data collection and engage in different types of data analysis to inform pedagogy and make connections between abstract knowledge of SLA and practical applications of such knowledge in second/foreign language classrooms.

Pre-requisite: None

### **EDUC7752 SPECIAL TOPICS IN TESOL**

This course is designed to offer visiting scholars, or existing staff, the opportunity to offer postgraduate level students courses in their particular area of specialization. The topic and content of the courses will vary from year to year depending on the availability of expert staff. Examples of specialized topics that may be offered include teaching and assessing specific language skills, teaching English for academic or specific purposes, technology-supported

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language teaching and learning, among other relevant topics.

Pre-requisite: None

### **EDUC7753 SOCIAL PERSPECTIVES ON LANGUAGE USE AND BILINGUAL EDUCATION**

This course examines the sociolinguistic, social psychological and sociological aspects of language use and bi/multilingual education. The course studies the ways in which groups of people use language, and looks into the close link between languages and the social context in which they are used. Topics such as aspects of language variation and dialects, language and power, language policy and language planning are covered. Bi/multilingualism and bi/multilingual education in different contexts are discussed, drawing implications for the teaching of English as a foreign language in Macao and the Greater Bay Area, and similar EFL contexts.

Pre-requisite: None

### **EDUC7754 LEARNING AND TEACHING OF ENGLISH PHONETICS AND PHONICS**

This course examines the sound systems of the major varieties of English and reviews methods used in teaching and improving pronunciation. Attention to the difficulties in English pronunciation encountered by learners of English in Macao and the Chinese context is given along with a review of targeted instructional techniques for helping students overcome these difficulties. Specifically, the course helps students to define achievable objectives for pronunciation teaching, diagnose learners' pronunciation problems and develop a range of techniques to increase students' awareness of, and concern for, the intelligibility of their spoken English.

Pre-requisite: None

### **EDUC7755 WRITTEN AND SPOKEN DISCOURSE FOR ENGLISH LANGUAGE TEACHING**

This course aims to help students to develop an understanding of the relationship between linguistic structures and functional purposes of language use in classroom contexts. It focuses on analysing discourse features in English as second or foreign language classroom contexts. Through analysing the linguistic and functional characteristics of teacher-learner classroom talk and its sequential structures, students will explore the dynamics and potential of classroom interactions, and their impacts on pedagogical effectiveness in a diversity of classroom contexts relevant to students with different learning needs and backgrounds.

Pre-requisite: None

### **EDUC7798 PROJECT REPORT**

Students are provided with an opportunity to build on interests developed in TESOL through undertaking an individual project normally of 8,000 words by independent study. Examples of possible projects are a critical literature review of an issue or topic of significance in TESOL, a small-scale research project, a relevant professional development activity, a reflection on language curriculum and materials development in a particular instructional context, a teaching practicum report, or any other project related to English language teaching practice. Each student will be assigned an academic supervisor that supports their independent study. For participants who might be aspiring to transition into a doctoral career, they can choose to conduct a TESOL research project and write a longer project report under the supervision of the programme instructors.

Pre-requisite: None

### **EDUC8001 QUALITATIVE RESEARCH METHODS**

This course intends to provide graduate students with systematic training about qualitative research methodology in education. Course participants will learn about different approaches to qualitative research and their epistemological underpinnings, the social theoretical paradigms informing different approaches, ethical considerations and issues of reflexivity/positionality/legitimacy, and the methodological nuts-and-bolts in conducting qualitative inquiry.

Pre-requisite(s): Introducing Qualitative Research, or equivalent; or based on instructor's consent.

### **EDUC8002 APPLICATIONS OF ADVANCED QUANTITATIVE METHODS**

This course provides coverage of some widely-used advanced quantitative methods in education and other social and behavioral sciences. It provides the analytical foundation for doctoral students in using these more advanced analytical approaches in evidence-based empirical research.

Pre-requisite(s): Introducing Quantitative Research, or equivalent; or based on instructor's consent.

### **EDUC8003 RESEARCH ETHICS**

This course is intended to provide a foundation for PhD students to think critically about what it means to be an ethical researcher. During this course students will critically analyse research ethics topics and case studies, and learn how to conduct a research project from an ethical standpoint. By understanding and reflecting upon research ethics-specific issues, students will assimilate the importance of scientific integrity while acquiring key reasoning skills that will significantly increase the scientific quality and impact of their future research.

Pre-requisite: None

### **EDUC8004 RESEARCH WRITING**

This course aims at introducing to PhD students an overall view of understanding and conducting educational research in a scholarly way. Critical issues are discussed in this module, including conceptualization, operationalization, measurement and others in order to lay a solid foundation for junior researchers in developing their research career.

Pre-requisite: None

### **EDUC8005 INTRODUCTION TO EDUCATIONAL RESEARCH**

This course aims at establishing a pragmatic foundation for doctoral students by seeing the strengths and weaknesses of various methods. It is designed for first-year doctoral students who pursue social science research.

Pre-requisite: None

### **EDUC8006 INTRODUCING QUALITATIVE RESEARCH**

This course is designed for students with little or no prior experience with qualitative research methods. The aim of the course is to familiarize students with various aspects of qualitative research strategies, as practiced by educational researchers. The course, conducted in the form of a seminar, covers a wide range of issues to help students to design, conduct, evaluate, and reflect upon qualitative research work. This introductory course can serve as a prerequisite, but not necessary if students already have prior knowledge in the subject matter, to the "Qualitative Research Methods" course.

Pre-requisite: None

### **EDUC8007 INTRODUCING QUANTITATIVE RESEARCH**

This course is designed for students with little or no prior experience with quantitative research methods. This course provides an introduction to quantitative methods used in educational research, particularly descriptive statistics and elementary inferential statistics. Topics include formulating research questions, research design, sampling, descriptive analysis, bivariate relationships, regression, analysis of variance etc. This course is required for all students enrolled in the doctoral programme of FED.

Pre-requisite: None

### **EDUC8008 QUALITATIVE RESEARCH DESIGN**

This course will present qualitative research objectives, qualitative research characteristics, and commonly used qualitative research strategies for Year-1 PhD students. This course aims to promote PhD students' ability to understand, interpret and apply qualitative approaches in authentic research contexts and prepare them for learning advanced qualitative research at a later stage.

Pre-requisite: None



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### **EDUC8009 DESCRIPTIVE AND INFERENTIAL STATISTICS**

This is an introductory course in descriptive and inferential statistics. The focus of the course is on basic quantitative research design as well as the use and interpretation of statistical procedures used with quantitative methods of research and evaluation. Topics covered include types of research design in quantitative research, descriptive statistics, measures of variability, procedures for evaluating the reliability and validity of tests and surveys, and correlation. This course does not rely heavily on mathematical skills. The statistical analysis software (e.g., SPSS) will be used in this course.

Pre-requisite: None

### **EDUC8100 EDUCATIONAL LEADERSHIP AND POLICY ANALYSIS**

The making and analysis of education policy has become more complex in the 21<sup>st</sup> Century as a result of political, economic and cultural changes to education. Thus, the goals of this course are to provide participants a critical awareness of issues, challenges and global transnational policies facing leaders in education in the regional and internationally during times of fervent change. The course design is structured to respond to the needs of future/potential/current leaders from all sectors and across all levels of education. This course will enable participants to examine concerned education issues and policy through the lens of educational leadership. Additionally, this course also examines the theoretical and methodological approaches to be considered in studying policy in a regional as well as a global context. Topics will include social justice and equity issues, for instance, gender; standards and accountability; models of governance, and the legal and the institutional framework of governance across the three educational levels.

Pre-requisite: None

### **EDUC8101 ORGANIZATION AND LEADERSHIP: FROM THEORIES TO PRACTICES**

This course is designed to promote reflective skills of educational professionals in the application of theoretical knowledge to address complex problems and make informed decisions. By familiarizing current and aspiring educational leaders with theoretical assumptions, limitations and practical implications of different organization and leadership models, learners should be able to apply their knowledge to develop creative strategic approaches to problem-solving and decision-making in applied settings. It is the objective of this course to help contemporary school leaders develop as effective and reflective leaders.

Pre-requisite: None

### **EDUC8102 RESEARCH METHODS IN EDUCATION**

The purpose of this course is to provide an introduction to a variety of research approaches and procedures common in the field of education. Conceptual, procedural and analytical issues from a wide variety of areas will be covered. Students will develop a good awareness of the range of methods that may be applied to different types of research and the guidelines to be used in selecting a set of appropriate research methods. This course will become a primary mechanism by which students develop a broad sense of the field of education and the use such knowledge to identify possible research topics.

Pre-requisite: None

### **EDUC8103 ORGANIZING FOR LEARNING**

Changes in educational technology and neuroscience are dramatically affecting the way students learn and the way schools are organized. The first part of this course is designed for K–12 educational leaders who want to initiate and implement technological change at the district and regional levels. The second part of this course will integrate research from neuroscience to transform the school into a learning organization. By integrating the latest technologies and instructional design principles, students can prepare to develop and lead technology-supported solutions to learning issues in the K–12 classroom, and leadership challenges in K-12 school settings.

Pre-requisite: None

**EDUC8104 DATA AND DECISION**

Decision-making in schools involves the systematic collection and analysis of data of different forms on the design, implementation, and the effectiveness of programmes or projects. This course will provide an overview of various perspectives and approaches to educational evaluation. Major theories and analytical tools will be discussed. Students will be given the opportunity to critically examine these different approaches to answer questions about classroom projects, educational policy and programmes. Students have the chance to apply the theories covered in the course through case study analyses. Students gain an understanding of theories, applications, and approaches within the context of formal programme evaluation.

Pre-requisite: None

**EDUC8105 COMPARATIVE AND INTERNATIONAL EDUCATION**

The comparative perspective has been an important lens through which educators understand our own education practices. This course aims to analyze different education systems around the world and introduce students to new education reforms and innovation in different countries. Students will be introduced to the new thinking of school organization and reflect upon existing practices. In the course, students will discuss diverse issues such as equity, achievement, marketization, cultural influence with cross-country comparisons of regulatory frameworks, and the role of culture.

Pre-requisite: None

**EDUC8106 RESEARCH WRITING AND ETHICS**

This course has been designed to suit the needs of doctoral students conducting educational research. The course aims to develop and sharpen doctoral students' academic and professional writing skills and strategies in Chinese and English, and build their proficiency and confidence as academic writers. Students will be equipped with the genre structure of research writing (e.g., introduction, literature review and discussion) and learn how to report empirical research in research articles and theses/dissertations.

Pre-requisite: None

**EDUC8107 SPECIAL TOPICS SEMINAR**

This seminar is a mixture of various topics that are relevant to school leaders. Each topic will be made up of a two-day workshop with experts from different fields inside and outside UM. Students will be divided into groups to discuss, evaluate, and present their group work as the assessment. Example topics include, but are not limited to: resource management in K-12, school case study, crisis management and law in education, change and development for educational institutions, values and ethics for school leaders, school governance and inter-systems relations, etc. Each student will attend at least four such seminars and produce a group report.

Pre-requisite: None

**EDUC8108 PRACTICE IN ACTION**

This course is the first of practicum series that aims to provide field experience to students to understand the world of educational practitioners. Students will inquire and discover issues by interviewing, observing, engaging in field research, or other appropriate means. Students will meet with and eventually embed themselves into organizations with key educational leaders from and throughout China. Alternatively, for students who already work in a leadership position, FED faculty members will follow and observe their work during the field experience. Each student will produce a report as an assessment.

Pre-requisite: None

**EDUC8109 INDEPENDENT STUDY**

This course is the second of practicum series that aims to provide field experience to students with an aim to understand the world of educational practitioners. The aim of the course is to guide students to disseminate their research and observation results through presentation, policy briefs, and/or practitioner journal publications to making a meaningful contribution to practice and/or policy issues. Student will work with a supervisor on a research topic of choice. This course

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provides meaningful pre-thesis research experience that would prepare the student for more sophisticated research.

Pre-requisite: None

### **EDUC8199 DOCTORAL THESIS**

This is the most significant learning experience of the programme. It is designed for EdD students to apply theories and experience learned in the courses and to independently conduct an applied research project examining an educational issue. Students will demonstrate their expertise in on a chosen topic and provides an intellectual contribution to the practice and educational leadership and management.

### **EDUC8999 DOCTORAL THESIS (Ph.D.)**

This course deals with both the theoretical and practical aspects of designing dissertation research and successfully defending the design in a proposal hearing. The purpose of the course is to assist students through the doctoral proposal and dissertation writing processes.

Prerequisite: 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 BIOLOGY OF 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**

Systems of Linear Equations and matrices. Gaussian elimination. Determinants. Cramer's rule. Euclidean Spaces. Addition and scalar multiplication of vectors. Linear transformations. Vector Spaces. Linear independence and linear dependence.

Pre-requisites: None

### **MATH1002 LINEAR ALGEBRA II**

Vector Spaces. Basis and dimension. Matrices, row spaces, column spaces and null spaces. Rank and nullity. Inner product spaces. Inner products and orthonormal bases. Gram-Schmidt process. Least square problems and orthogonal matrices. Eigenvalues and eigenvectors. Diagonalization, orthogonal diagonalization. Linear transformations. Kernel and range. Inverse linear transformations. Similarity. Additional topics include quadratic forms, unitary, normal, Hermitian matrices, and canonical forms.

Pre-requisites: MATH1001

### **MATH1003 INTERMEDIATE CALCULUS**

Definite integrals. Fundamental theorem of calculus. Applications of definite integrals. Approximations of definite integrals. Sequence and series. Power series and Taylor series.

Pre-requisite: GEST1004

### **MATH1004 GEOMETRY**

Euclidean geometry, Euclidean space, inner product, distance, and angle. Isometries. Vectors in planes and spaces. Lines and planes and surfaces in 3-dimensional space. Linear transformations, projections, orientations and determinants, isomorphisms, and general linear groups. Symmetries and regular polyhedrons. Affine geometry. Affine spaces and affine transformations. Brief discussion on the development of various geometries such as Euclidean and non-Euclidean ones.

Pre-requisite: None

### **MATH2002 MULTIVARIABLE CALCULUS**

Vectors and analytic space geometry. Norms, convergence of vector sequences, open and closed sets, compact sets. Curves, Frenet frames, surfaces. Functions of several variables. Partial derivatives and their applications, linear approximation, differential, Taylor's formula. Method of Lagrange multiplier. Inverse function theorem, implicit function theorem. Multiple integrals. Green's Theorem. Line and surface integrals. Gauss and Stokes' Theorems.

Pre-requisite: GEST1004

### **MATH2003 MATHEMATICAL ANALYSIS I**

The axioms for the real number system. Countable and uncountable sets. Sequence of real

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numbers. Nested intervals theorem. Bolzano-Weierstrass theorem, Cauchy criterion and Heine-Borel Theorem. Limits and continuity of functions. Properties of continuous functions.  
Pre-requisite: GEST1004

#### **MATH2004 MATHEMATICAL ANALYSIS II**

Differentiation. Mean value Theorem. L'Hopital's Rule. Inverse function theorem. Integration. Upper and lower integrals. Riemann integrals. Fundamental theorem of calculus. Elementary functions. Series of numbers. Tests for convergence. Series of functions. Uniform convergence. Power series and Taylor series.  
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**

Sampling distributions: Chi-square distribution, t-distribution, and F-distribution. Laws of large number and Central limit theorems. Estimation: theory and application. Hypotheses testing: theory and application. Linear regressions, correlation analysis, linear statistical model. The analysis of variance: theory and application. Introduction of statistical computing software.  
Pre-requisite: MATH2005

#### **MATH3000 ORDINARY DIFFERENTIAL EQUATIONS**

First-order differential equations. Second-order linear differential equations. Higher order linear differential equations. Systems of differential equations. Power series solutions of linear differential equations, Sturm-Liouville problems. Laplace transforms. Existence and uniqueness theorem of first-order differential equations. Simple modeling problems.  
Pre-requisite: MATH1003

#### **MATH3001 COMPLEX ANALYSIS**

Complex numbers. Polar coordinates. Functions of a complex variable. Limits. Derivatives of complex functions. Cauchy-Riemann equations. Harmonic functions, harmonic conjugates. Elementary complex functions, Mobius transformations. Contour integrals. Cauchy-Goursat Theorem. Cauchy integral formula. Liouville's theorem. Maximum moduli of functions. Taylor series. Laurent series. Residue theorems. Evaluation of improper integrals. Rouché's theorem.  
Pre-requisite: MATH1003

#### **MATH3003 ABSTRACT ALGEBRA**

Groups. Cyclic groups and permutation groups. Cosets and Lagrange theorem. Homomorphisms. Normal subgroups and factor groups. Group action and counting. Rings. Integral domains. Ring homomorphisms. Ideals and quotient rings. Field of quotients. Rings of polynomials. Introduction to Fields.  
Pre-requisite: MATH1001

#### **MATH3004 PARTIAL DIFFERENTIAL EQUATIONS**

Characteristics, classification of PDE, separation of variables, Fourier transform, and Laplace transform. Well-posedness of the wave and the heat equations. Boundary value problems for the Laplace and Poisson equations. Separation of variables.  
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**

Divisibility theory of the integers, primes, unique factorization, congruence. Fermat's little theorem, Diophantine equations. Quadratic residues and quadratic reciprocity laws, primitive roots. Pell's equations and continued fractions.

Pre-requisite: None