



香港中文大學
The Chinese University of Hong Kong



FACULTY OF
SCIENCE
理學院





FACULTY OF SCIENCE 理學院

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DEAN'S MESSAGE 院長的話

Science education is the key to technological innovations. Not only does it fuel economic growth in modern society, but it also benefits humanity in our daily lives.

Since 1963, the Faculty of Science at the Chinese University of Hong Kong has taken pride in providing the ideal environment for active scientists to learn and undertake research. The Faculty now offers 14 undergraduate programmes and over 30 postgraduate programmes. A quarter of the students at the Faculty are working towards postgraduate degrees. We aim to provide a holistic science education whilst boosting learning with a liberal arts approach. We believe that this emphasises our students' development of independent and critical thinking, problem solving skills and creativity.

Fifty years on, our Faculty is now a world-class, research-oriented Faculty which leads scientific innovations across a wide range of disciplines. Our impressive list of faculty members and distinguished alumni attest to the fine level of research, teaching and learning at our Faculty. For the past triennium, our faculty members have secured over HK\$300 million of funding for research, with the aim of expanding the frontier of human knowledge.

The Faculty of Science is not only engaged in a relentless strive for education and research excellence on campus. Instead, we are also pioneers in enhancing teaching and learning development projects, as well as promoting public science education. Looking forward, our Faculty is determined to continue as the forefront of scientific education and pursuits. Higher education and academic research require great effort and can only be achieved by inspired and passionate students and faculty members. Therefore, we strive to provide a fun, stimulating, yet inspiring environment for members to achieve individual goals.

科學教育是推動科技發展的關鍵，不單能促進經濟增長，對改善人類的日常生活亦有莫大的貢獻。

香港中文大學理學院自1963年創立至今，一直肩負著為老師、學生和研究人員提供一個理想的科學教學及研究環境的重任。理學院合共提供14個本科生及30多個研究生課程，現時學院內約有四分一的學生為研究生。學院著重人文價值的科學教育，並透過綜合教學方式提昇學生的獨立及批判性思考、解決問題的技巧和創意。

經過數十年的努力，理學院已成為一所綜合研究型的國際級學院。優秀的教研隊伍和專業而出色的校友均證明理學院是教、學、研三方兼備。過去數年，我們獲得超過3億港元的研究資金，主要用於開創人類知識新領域。

理學院不僅於大學內將教育與研究兩個範疇做到最好，而且也是科普教育的先驅，多年來我們積極對外推廣科學教育，藉此提高市民對科學的認知。教研的步伐不斷向前，理學院將繼續站於教育和科研的最前線，並致力提供一個刺激思維、鼓勵創新及啟發潛能的學習環境，讓所有富熱誠又具創意的老師和學生實現自己的抱負與理想。

Henry N.C. Wong 黃乃正
Dean of Science
理學院 院長

INTRODUCTION TO THE FACULTY

Established in 1963, the Faculty now has six major teaching units offering 14 undergraduate programmes and over 30 postgraduate programmes. The six units are:

- School of Life Sciences
- Department of Chemistry
- Department of Mathematics
- Department of Physics
- Department of Statistics
- Earth System Science Programme

Currently, the Faculty has over 130 faculty members engaging in quality teaching and cutting-edge research. Our Faculty is proud to have world-renowned professors whom contribute to the advancement of science at CUHK. These professors include Nobel Laureate Professor **Yang Chen-Ning** and Fields Medallist Professor **Yau Shing-Tung**, whom engage in activities stimulating our students. We are also very fortunate to have other notable professors, including Professor **Richard J. Roberts**, Professor **Kurt Wüthrich**, Professor **Qiu Yong** and Professor **Zhao Zhongxian**, who, amongst them, are Nobel Laureates, President of Tsinghua University, and Academicians of the Chinese Academy of Sciences as well as the Chinese Academy of Engineering. Our faculty members help to promote professional scientific scholarship throughout the Faculty. In addition, Pro-Vice-Chancellor and Professor of the Department of Statistics, Professor **Poon Wai-Yin**, has been conferred the inaugural UGC Award for Teaching Excellence by the University Grants Committee (UGC), in recognition of her outstanding teaching performance and achievements.



The Faculty is also involved in a number of centres, including: the Centre of Optical Sciences under the Institute of Optical Science and Technology, the Hong Kong Bioinformatics Centre, the Institute of Mathematical Sciences, the Institute of Theoretical Physics, the Institute of Plant Molecular Biology and Agricultural Biotechnology, the UGC-AoE Centre for Plant and Agricultural Biotechnology, the RGC-AoE Centre for Organelle Biogenesis, Function, the Centre of Novel Functional Molecules, the Centre for Scientific Modelling and Computation, and the Centre for Promoting Science Education. These units are effective platforms for developing interdisciplinary research, promoting knowledge transfer and contributing to society.



理學院介紹

理學院於1963年成立，目前有6個主要教學部門，合共提供14個本科生課程以及30多個研究生課程。

- 生命科學學院
- 化學系
- 數學系
- 物理系
- 統計系
- 地球系統科學課程

理學院目前有超過130名教員，從事優質教學與科研，並與享譽國際的科學家保持緊密聯繫，當中包括：首位華人諾貝爾物理學獎得主兼中大博文講座教授**楊振寧**教授、費爾茲獎得主**丘成桐**教授、諾貝爾生理醫學獎得主 **Richard J. Roberts** 博士、諾貝爾化學獎得主 **Kurt Wüthrich** 教授、清華大學校長**邱勇**教授、中國科學院院士**趙忠賢**教授、以及多位中國科學院和中國工程院院士。另外，副校長兼統計系教授**潘偉賢**教授更榮獲大學教育資助委員會(教資會)頒發首屆「教資會傑出教學獎」，以嘉許潘教授的傑出教學成就。



此外，理學院還參與管理多個單位，包括光科技研究所屬下之光學研究中心、香港生物信息中心、數學科學研究所、理論物理研究所、植物分子生物學及農業生物科技研究所、教資會卓越學科領域植物及農業生物科技中心、教資會卓越領域細胞器生物合成及功能研究中心、新穎功能分子研究中心、科學模型與計算中心及科學教育促進中心。這些單位為跨學科的合作研究提供了平台、加速科研成果產業化、促進科學知識普及及為社會作出貢獻。



PROGRAMME OVERVIEW 課程概況

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JS4601 SCIENCE 「理學」	13
JS4633 Earth System Science (Atmospheric Science / Geophysics) 地球系統科學 (大氣科學/地球物理)	28
JS4682 Enrichment Mathematics 數學精研	29
JS4690 Enrichment Stream in Theoretical Physics 理論物理精研	30
JS4276 Quantitative Finance and Risk Management Science 計量金融學及風險管理科學	31
JS4719 Risk Management Science 風險管理科學	32
Natural Sciences 自然科學	33

OVERVIEW 概況

Degrees Offered 主修課程	Undergraduate Programmes 本科生課程	Postgraduates		Programmes 研究生課程
		Research	研究式	Taught Master 修讀式碩士
		Doctoral 博士	Master 碩士	
Biochemistry 生物化學	✓	✓	✓	MSc in Biochemical and Biomedical Sciences 生物化學及生物醫學理學碩士
Biology 生物學	✓	✓	✓	
Cell and Molecular Biology 細胞及分子生物學	✓	✓	✓	
Environmental Science 環境科學	✓	✓	✓	
Food and Nutritional Sciences 食品及營養科學	✓	✓	✓	MSc in Nutrition, Food Science & Technology 營養與食品科學技術理學碩士
Molecular Biotechnology 分子生物技術學	✓	✓	✓	
Chemistry 化學	✓	✓	✓	MSc in Accreditation Chemistry 認證化學理學碩士
Earth System Science 地球系統科學 ■ Atmospheric Science # 大氣科學 # ■ Geophysics # 地球物理 #	✓	✓	✓	
Mathematics 數學 ■ Enrichment Mathematics #* 數學精研 #*	✓	✓	✓	MSc in Mathematics 數學理學碩士
Natural Sciences ^ 自然科學 ^	✓			
Physics 物理 ■ Enrichment Stream in Theoretical Physics 理論物理精研	✓	✓	✓	
Materials Science and Engineering 材料科學與工程學		✓	✓	MSc in Physics 物理理學碩士
Quantitative Finance and Risk Management Science 計量金融學及風險管理科學	✓			
Risk Management Science 風險管理科學	✓		✓	MSc in Risk Management Science 風險管理科學理學碩士
Statistics 統計學	✓	✓	✓	MSc in Data Science and Business Statistics 數據科學及商業統計理學碩士

Undergraduate programme/stream which admits students via the programme-based admission, while others are under SCIENCE broad-based admission scheme

透過個別課程收生計劃招生之本科生課程，而其他本科生課程均歸納於「理學」大類收生計劃

* After finishing the first year of study in the programme, students with satisfactory performance can transfer to Mathematics and Information Engineering

學生完成數學精研第一年課程，如成績合乎要求，可於第二學年選修數學與信息工程學

^ A 2-year programme for articulation of local Associate Degree/Higher Diploma Holders

為持有本地認可之高級文憑或副學位資歷人士而設的兩年制銜接課程

FACULTY PACKAGE [^]

The normative study period is four years in the Faculty. Students must complete at least 123 units of courses before graduation, including 9 units from the Faculty Package. The Faculty Package consists of building blocks for the foundational study of science in the first year. It is designed to fit students with different science backgrounds. The package contains five groups of courses. Students should take 3 courses from 3 different groups according to their interest, ability and the specific requirements of their preferred major. A list of the courses is as follows:

Course Code	Course Title	Units
Group A: Life Sciences		
LSCI1000	Biochemistry of Health and Disease	3
LSCI1001	Basic Concepts in Biological Sciences	3
LSCI1002	Introduction to Biological Sciences	3
Group B: Chemistry		
CHEM1070	Principles of Modern Chemistry	3
CHEM1072	General Chemistry	3
CHEM1280	Introduction to Organic Chemistry and Biomolecules	3
Group C: Mathematics		
MATH1010	University Mathematics	3
MATH1030	Linear Algebra I	3
MATH1520	University Mathematics for Application	3
Group D: Physics		
PHYS1001	Essential Physics	3
PHYS1002	General Physics	3
PHYS1111	University Physics I – Introduction to Mechanics, Fluids and Waves	3
Group E: Statistics		
STAT1011	Introduction to Statistics	3
STAT1012	Statistics for Life Sciences	3

[^] Not applicable to students studying the B.Sc. in Natural Sciences

學院課程 [^]

理學院的課程常規修業期為四年。學生須修滿123學分，當中包括9學分的學院課程。學院課程提供眾多科目，旨在讓不同理學背景及不同興趣的學生在第一學年建立良好的理學基礎及提供選科指導。學院課程共分為五大類，學生可配合自己的興趣和能力及主修課程的要求，選擇修讀三個不同類別的科目。下列為科目總表：

科目編號	科目名稱	學分
A組：生命科學		
LSCI1000	健康與疾病之生物化學	3
LSCI1001	生物科學基本概念	3
LSCI1002	生物科學入門	3
B組：化學		
CHEM1070	現代化學概論	3
CHEM1072	基礎化學	3
CHEM1280	有機化學及生物分子導論	3
C組：數學		
MATH1010	大學數學	3
MATH1030	線性代數〔一〕	3
MATH1520	大學應用數學	3
D組：物理		
PHYS1001	基礎物理	3
PHYS1002	普通物理	3
PHYS1111	大學物理〔一〕：力學、流體與波動導論	3
E組：統計學		
STAT1011	統計導論	3
STAT1012	生命科學統計	3

[^] 自然科學學士課程學生不適用

Required Courses for Major [^]

Students must complete the specified courses in the Faculty Package to fulfil a major programme's requirements. Details are as follows:

Major	1 st Course	2 nd Course	3 rd Course
Chemistry	B: CHEM1070	C: MATH1520 (preferred) OR MATH1010	Any from A, D, E
Earth System Science; Earth System Science (Atmospheric Science/ Geophysics)	C: MATH1010 (preferred) OR MATH1520	D: PHYS1111 (preferred) OR PHYS1001 OR PHYS1002	Any from the following B: CHEM1070 (preferred) OR CHEM1072 E: STAT1011 (preferred) OR STAT1012
Life Sciences #	A: LSCI1002	B: CHEM1280 (preferred) OR CHEM1070	Any from the following C: MATH1520 (preferred) OR MATH 1010 D: PHYS1001 (preferred), PHYS1002 (preferred) OR PHYS1111 E: STAT1012 (preferred) OR STAT1011
Mathematics; Enrichment Mathematics	C: MATH1010 OR MATH1030	E: STAT1011	Any from A, B, D
Physics; Enrichment Stream in Theoretical Physics	D: PHYS1111	C: MATH1010	Any from A, B, E
Quantitative Finance and Risk Management Science	C: MATH1010	DSME1030 *	DSME1040 *
Risk Management Science	C: MATH1010	E: STAT1011	Any from A, B, D OR DSME1031 *, DSME1040 *, HTMG1010 *, HTMG1111 * OR MGNT1020 *
Statistics	Any from E	C: MATH1010 OR MATH1520	Any from A, B, D

[^] Not applicable to students studying the B.Sc. in Natural Sciences

* Courses from Business Administration (BA) Faculty

Life Sciences includes Biochemistry, Biology, Cell and Molecular Biology, Environmental Science, Food and Nutritional Sciences, and Molecular Biotechnology

For the latest information, please refer to the Science Faculty website and the major programme website.

主修課程必修科目 [^]

學生必須按主修課程要求修讀最少三個學院課程科目，詳情如下：

主修課程	第一個 學院課程	第二個 學院課程	第三個 學院課程
化學	B 組：CHEM1070	C 組：MATH1520 (較適合) 或 MATH1010	A 組、D 組、E 組的任何一科
地球系統科學； 地球系統科學 (大氣科學 / 地球物理)	C 組：MATH1010 (較適合) 或 MATH1520	D 組：PHYS1111 (較適合) 或 PHYS1001 或 PHYS1002	下列任何一科 B 組：CHEM1070 (較適合)、 或 CHEM1072 E 組：STAT1011 (較適合)、 或 STAT1012
生命科學 #	A 組：LSCI1002	B 組：CHEM1280 (較適合) 或 CHEM1070	下列任何一科 C 組：MATH1520 (較適合)、 MATH1010 D 組：PHYS1001 (較適合)、 PHYS1002 (較適合)、 PHYS1111 E 組：STAT1012 (較適合)、 STAT1011
數學； 數學精研	C 組：MATH1010 或 MATH1030	E 組：STAT1011	A 組、B 組、D 組的任何一科
物理； 理論物理精研	D 組：PHYS1111	C 組：MATH1010	A 組、B 組、E 組的任何一科
計量金融學及 風險管理科學	C 組：MATH1010	DSME1030 *	DSME1040 *
風險管理科學	C 組：MATH1010	E 組：STAT1011	A 組、B 組、D 組 或 DSME1031 *、DSME1040 *、 HTMG1010 *、HTMG1111 *、 MGNT1020 *的任何一科
統計學	E 組的任何一科	C 組：MATH1010 或 MATH1520	A 組、B 組、D 組的任何一科

[^] 自然科學學士課程學生不適用

* 商學院科目

生命科學包括以下課程：生物化學、生物學、細胞及分子生物學、環境科學、食品及營養科學、分子生物技術學

資料以理學院及各主修課程網頁為準。

SCIENCE 「理學」

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🏠 www.cuhk.edu.hk/sci/en/admissions/science.html

The SCIENCE broad-based admission scheme allows students during their first year of study to explore their interests in the following 11 science programmes.

- Biochemistry
- Biology
- Cell and Molecular Biology
- Chemistry
- Earth System Science
- Environmental Science
- Food and Nutritional Sciences
- Molecular Biotechnology
- Mathematics
- Physics
- Statistics

There is no quota for a specific major, while ample academic advising will be provided to assist students in selecting their programme of study. Depending on their abilities, admitted students may be able to declare their majors at the time of entrance, or at the end of Year 1 or Year 2.

The broad-based admission scheme places high priority on students and their interests. To better prepare students to select a major of study, a flexible first-year curriculum and a Faculty Package have been designed for students with different preparations and to allow them to:

- acquire a broader view about science
- be better prepared to study in a science major programme
- be able to tackle problems in a comprehensive and integrative manner

Students under the broad-based admission scheme will make a selection from a common set of courses - the Faculty Package - in their first year of study. There are five groups of courses in the package: chemistry, life sciences, mathematics, physics and statistics. Students will study at least three 3-unit courses from the Faculty Package. The first course shall be chosen from the student's most desired major programme, the second course shall be chosen from a relevant subject, and the third course shall be chosen from the remaining groups.

「理學」大類收生計劃讓學生了解自己於11個理學學科的興趣和能力，從而作出最正確的選擇。「理學」課程包括11個主修課程：

- 生物化學
- 生物學
- 細胞及分子生物學
- 化學
- 地球系統科學
- 環境科學
- 食品及營養科學
- 分子生物技術學
- 數學
- 物理
- 統計學

各個主修課程均沒有設立學額限制，並且會為學生提供學術諮詢，以協助學生選擇合適的主修課程。學生可根據自己的能力，於入學時、第一學年終或第二學年終確認主修課程。

「理學」大類收生計劃以學生為本並以其興趣為主導，第一學年的課程設計充滿彈性，讓擁有不同理學背景的學生都能於第一學年：

- 擴闊理學視野
- 作好選修主修課程的準備
- 學會以更全面和綜合的方式解決問題

學生透過大類收生入學後，會於第一個學年修讀共同的「學院課程」。學院課程包括化學、生命科學、數學、物理及統計學等五大組別。課程設計既統一又充滿彈性。學生必須於學院課程中選讀最少三個三學分科目，包括：一個學生理想主修組別科目，一個與理想主修相關組別的科目及一個從其餘的組別選修的科目。



MAJOR DECLARATION

Students can declare their major at any of the three time points and admission is guaranteed.

1 st : Entry	Obtained Level 5 or above in a HKDSE subject specified by the potential major programme
2 nd : End of Year 1	Obtained C+ or above in ONE course from the Faculty Package specified by the potential major programme
3 rd : End of Year 2	TAKEN (NOT necessarily ALL PASSED) a set of courses specified by the potential major programme

For students admitted via Non-JUPAS scheme, please refer to the Science Faculty website.

1st Time Point: Entry

Major	HKDSE Subject
Life Sciences #	Biology OR Chemistry OR Combined Science (Component - Biology or Chemistry) * OR Integrated Science OR Technology and Living (Food Science and Technology) (applies to Food and Nutritional Sciences only)
Chemistry	Chemistry OR Combined Science (Component - Chemistry) *
Earth System Science	Biology OR Chemistry OR Physics OR Combined Science
Mathematics	Mathematics (Module 1) OR Mathematics (Module 2)
Physics	Physics OR Combined Science (Component - Physics) *
Statistics	Mathematics OR Mathematics (Module 1) OR Mathematics (Module 2)

2nd Time Point: End of Year 1

Major	Faculty Package Course
Life Sciences #	LSCI1002
Chemistry	CHEM1070
Earth System Science	CHEM1070 OR LSCI1002 OR MATH1010 OR PHYS1111 OR STAT1011
Mathematics	MATH1010 OR MATH1030
Physics	PHYS1111
Statistics	STAT1011 OR STAT1012

3rd Time Point: End of Year 2

Major	Courses Should Be Already Taken
Life Sciences #	LSCI1002, LSCI2002, BCHE2030, AND BIOL2120
Chemistry	CHEM1070, AND Any ONE Laboratory course from CHEM1870 / CHEM2408 / CHEM2820 / CHEM2830 / CHEM2850, AND Any TWO Lecture courses with course code CHEM2XXX
Earth System Science	ESSC2010, ESSC2020, AND Any ONE course from CHEM1070 / LSCI1002 / MATH1010 / PHYS1111 / STAT1011
Mathematics	MATH1010, MATH1030, MATH2010, MATH2020, AND MATH2040
Physics	PHYS1111, PHYS1122, PHYS1712, AND PHYS2041
Statistics	STAT2001, STAT2006, AND Any ONE course from STAT1011 / STAT1012, AND Any ONE course from MATH1010 / MATH1030 / MATH1520

Life Sciences includes Biochemistry, Biology, Cell and Molecular Biology, Environmental Science, Food and Nutritional Sciences, and Molecular Biotechnology

* The subject and specified component have to be Level 5 or above

主修申報

學生可於入學時、第一或第二學年終申報主修課程。各個主修課程均沒有設立學額限制。

第一階段：入學時	於主修課程指定的香港中學文憑考試科目中取得第5級或以上成績
第二階段：第一學年終	於主修課程所指定的其中一個學院課程科目中取得 C+ 或以上成績
第三階段：第二學年終	已修讀(不需要全部合格)主修課程指定的科目

經非聯招入學的學生，請參閱理學院網頁。

第一階段：入學時

主修	中學文憑試科目
生命科學 #	生物 或 化學 或 組合科學(指定部分 - 生物或化學)* 或 綜合科學 或 科技與生活(食品科學與科技)(只適用於食品及營養科學)
化學	化學 或 組合科學(指定部分 - 化學)*
地球系統科學	生物 或 化學 或 物理 或 組合科學
數學	數學科單元 1 或 數學科單元 2
物理	物理 或 組合科學(指定部分 - 物理)*
統計學	數學 或 數學科單元 1 或 數學科單元 2

第二階段：第一學年終

主修	學院課程科目
生命科學 #	LSCI1002
化學	CHEM1070
地球系統科學	CHEM1070 或 LSCI1002 或 MATH1010 或 PHYS1111 或 STAT1011
數學	MATH1010 或 MATH1030
物理	PHYS1111
統計學	STAT1011 或 STAT1012

第三階段：第二學年終

主修	指定修讀科目
生命科學 #	LSCI1002、LSCI2002、BCHE2030 及 BIOL2120
化學	CHEM1070 及 CHEM1870 / CHEM2408 / CHEM2820 / CHEM2830 / CHEM2850 中任何一個實驗科目 及 CHEM2XXX 中任何兩個授課式科目
地球系統科學	ESSC2010、ESSC2020 及 CHEM1070、LSCI1002、MATH1010、PHYS1111、STAT1011 中任何一科
數學	MATH1010、MATH1030、MATH2010、MATH2020 及 MATH2040
物理	PHYS1111、PHYS1122、PHYS1712 及 PHYS2041
統計學	STAT2001、STAT2006 及 STAT1011 / STAT1012 中任何一科 及 MATH1010 / MATH1030 / MATH1520 中任何一科

生命科學包括以下課程：生物化學、生物學、細胞及分子生物學、環境科學、食品及營養科學、分子生物技術學

* 組合科學全科及指定部分均須取得第 5 級或以上成績

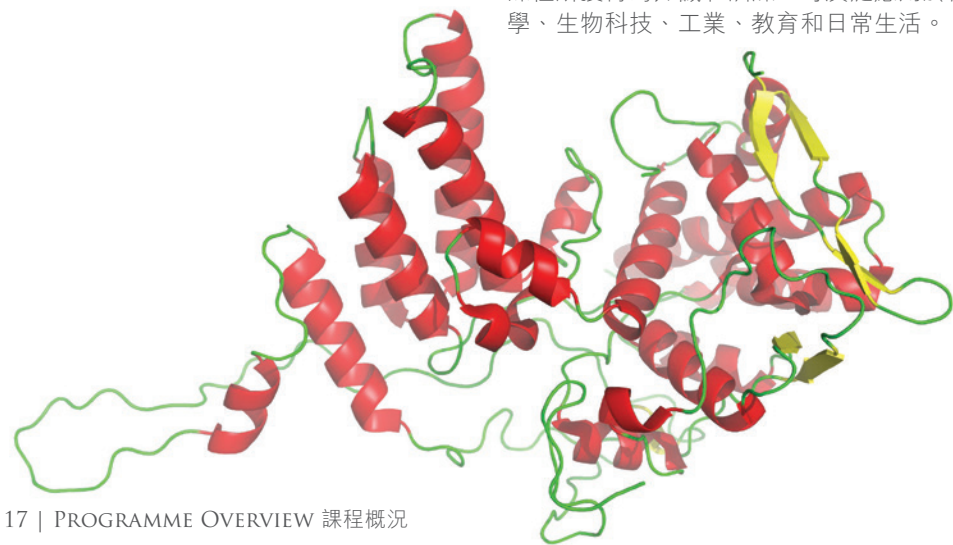
BIOCHEMISTRY

生物化學

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Biochemistry is a branch of science that examines chemical compounds and processes which occur in living organisms at the molecular level. The curriculum encompasses the study of metabolism of biomolecules and its regulations, life processes, molecular biology, enzymes and proteins, cancer development, clinical biochemistry, endocrinology, immunology, neurosciences, and scientific conduct and ethics. There are also opportunities of internship and research. The curriculum is designed to enhance research and experiment skills of students. Students can also take part in summer research programme. The knowledge and research experience obtained from our programme have found extensive applications in medicine, biotechnology industry, education and in our daily lives.

生物化學是一門在分子層面上研究和揭示生命現象的科學。課程範圍廣泛，內容包括生物分子代謝及調控、生命程序、分子生物學、蛋白質與酶、腫瘤學、臨床生物化學、內分泌學、免疫學、神經科學及科學操守與道德等。所有課程與實驗課，均強調同學對核心知識的掌握、研究和實驗技巧之訓練。同學亦可參與暑期研究，並可在畢業前選擇專題實驗研究，增廣專業知識。在生物化學課程所獲得的知識和訓練，可廣泛應用於醫學、生物科技、工業、教育和日常生活。



BIOLOGY

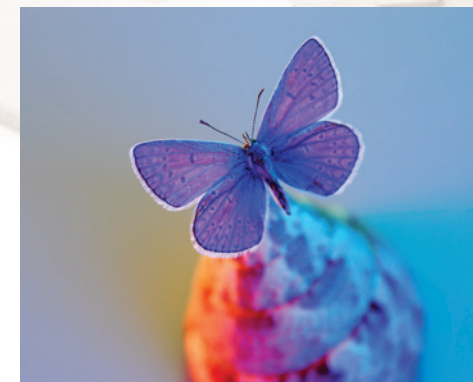
生物學

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Biology is the main engine driving the future economic and social developments in the 21st Century. The mission of the programme is to generate and transfer knowledge, cultivate future star scientists, and train all-round citizens for our society. The programme places emphasis on both research and education.

The programme has received major funding support from the University Grants Committee and is recognized as the Area of Excellence (AoE) on Plant and Fungal Biotechnology. In collaboration with major national and international scientific institutes, this AoE centre tackles major agricultural and health problems using state-of-the-art technologies. Through the AoE centre, the programme also participates in the China national programme of rice functional genomics and is responsible for the part of seed quality.

At the same time, our Marine Biotechnology research programme is also recognized as one of the strategic research areas of CUHK. The Simon F S Li Marine Science Laboratory is equipped with full-fledged research and teaching laboratories. Current research is focused on the physiology, biochemistry and molecular biology of marine animals, especially that of fish and shrimps, in relation to fisheries and agriculture and the biology and ecology of planktonic and coral reef organisms.



生物學是廿一世紀經濟及社會發展的主要動力。課程的使命是為社會創造及傳授知識、培育明日科學之星，以及訓練全才的公民，故課程是科研與教育並重的。

在科研方面，本課程的「植物及真菌生物科技」科研計劃獲香港大學教育資助委員會確認為卓越學科領域，給予重點資助。這個計劃應用嶄新科技，並透過與國內外科研機構合作，重點鑽研農業及健康的課題。其中稻米品質的研究更獲邀參與國家水稻功能基因組國家重大科研項目。

海洋生物科技亦被確認為中大策略性研究項目。李福善海洋科學研究中心有設備完善的教學及研究實驗室，研究重點包括：經濟魚、蝦類之生理、生化及分子生物學，以及浮游生物和珊瑚礁的生態等。

CELL AND MOLECULAR BIOLOGY 細胞及分子生物學

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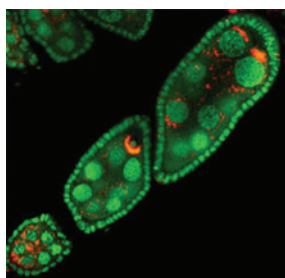


As a major international city of China, Hong Kong is one of the national and international research centres for biomedical sciences. To cope with the increasing demand for talents in the field, the Chinese University of Hong Kong launched the Cell and Molecular Biology Programme (CMBI) in 2008 with the aim to prepare students for a professional research career in the fields of biological and biomedical sciences through an innovative curriculum.

CMBI is a research-intensive programme focusing on the fundamental aspects of cell and molecular biology. Its major research directions include cell structure and function, cell signalling, molecular biology, developmental biology, stem cell biology, and neurobiology. Various well-recognised cell systems such as stem cells and top model organisms such as *Drosophila* and mouse are used to exemplify the basic principles and questions in these fields.

作為中國其中一個主要城市，香港已成為國家及國際生物醫學研究的中心。為配合此研究領域與日俱增的人才需要，香港中文大學於2008年創辦了細胞及分子生物學課程。透過獨特和全面的課程設計，本課程的畢業生將具備投身生物及生物醫學研究的專業知識和訓練。

本課程是一個以探討細胞及分子生物學基本規律為宗旨的研究型教學課程，其研究範圍包括細胞結構及功能、細胞信號傳導、分子生物學、發育生物學、幹細胞生物學及神經細胞生物學等。本課程的研究項目主要採用各種細胞系統(如幹細胞)及重要的模式生物(如果蠅和小鼠)，以闡述細胞及分子生物學領域的基礎核心原理及相關問題。



ENVIRONMENTAL SCIENCE 環境科學

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Environmental Science is an integrated science that involves the use of the knowledge and skills of applied biochemistry, biology, and chemistry to test, assess, and resolve environmental problems. The basic courses of the programme cover the fundamentals of biochemistry, biology, and chemistry. Subjects including environmental pollution and toxicology, environmental chemistry, environmental instrumentation techniques, environmental impact assessment, and principles of environmental management and pollution control are provided to nurture all-round interests of students in environmental science. The curriculum prepares students for further studies and careers in environmental chemistry and instrumentation techniques, environmental impact assessment, pollution monitoring, toxicology and environmental conservation in government and private sectors. Students can choose to conduct supervised research on a special area of their choice in environmental science. This will strengthen their knowledge in environmental science and their ability to write research reports. Students can also join internship programmes to expand their career development. Graduates are prepared for jobs related to environmental science as well as postgraduate studies. The programme also offers MPhil and PhD degrees, in which students can undertake projects for more in-depth study and research.



環境科學是一門綜合性科學，內容主要涉及應用生物化學、生物學及化學的知識及技能，來理解、測量、評估及改善各種環境問題。本課程的基礎科目包括環境科學所需的生物化學、生物學及化學基本知識。此外，本課程亦提供環境化學及儀器分析技術、環境影響評估、污染監測、毒理學和環境保育等課題，以增進同學們對環境科學各方面的認識，進而在專門項目上，例如毒理學、環境保育、資源運用及廢物處理等，作更深入的鑽研。畢業前，學生在導師指導下，進行環境科學各專題的研究，以加強他們在環境科學研究上的經驗和發表科研報告的能力。學生亦可以參加工作實習，以加強他們對就業的預備。本學科亦設有碩士及博士研究課程，可對環境科學個別項目進行更專業的探討及研究。

FOOD AND NUTRITIONAL SCIENCES 食品及營養科學

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The curriculum covers food and nutrition, food safety, food microbiology, food preservation, food product development, food analysis, quality assurance etc. The two integrated parts of the programme, food science and nutritional science, systematically familiarise students with professional and practical knowledge of both fields. Along with introductory food and nutritional science courses, students first take fundamental courses on human physiology, genetics, microbiology, cellular basis of biochemistry, and fundamentals of biochemistry, etc. These prepare our students for more in-depth study of food and nutritional sciences. They can then choose from a range of specialised food and nutritional sciences courses and conduct directed research on a relevant topic under supervision.



食品及營養科學課程研讀範圍廣泛，包括食品與人類營養及健康之關係、食品安全、食品微生物學、食品保存、研發、成份分析及品質管理等。

本課程之內容可概分為食品科學及營養學兩部分，由淺入深，循序漸進地向學生介紹食品科學和營養學的專業知識和實驗技術。學生先修讀食品及營養的導論科目及基礎科目如人體生理學、遺傳學、微生物學、生物化學細胞學、生物化學等課程，以增強修讀食品科學及營養學專修科的能力及興趣；其後，學生可選讀與食品科學及營養學有關之專門科目，更可在老師指導下進行有關之「專題研究」，以進一步加強對食品科學及營養學的專業知識。



MOLECULAR BIOTECHNOLOGY 分子生物技術學

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Molecular biotechnology is a modern interdisciplinary field with widespread applications and significant contributions in industry, agriculture, environment, and medicine. The Molecular Biotechnology Programme is offered jointly by professionals in biology and biochemistry to provide an integrative training to students. The aim is to meet the great demands for biotechnology expertise. Students will first acquire basic knowledge in biology, organic chemistry, and quantitative science, and gain hands-on experience and basic skills through laboratory classes.

Students are expected to acquire the fundamentals of molecules, genetics, cells, and diversity of life. The Programme focuses on the core of molecular biotechnology in the upper years with specialised courses covering genetic engineering, molecular biology and methods in biochemistry, microbial biotechnology, plant biotechnology, animal biotechnology, protein biochemistry, proteomics, and bioinformatics. Molecular biotechnology is a rapidly developing technical- and application-oriented area. The programme offers the courses to equip the students with the latest methodology and technology, as well as highlighting the importance of business and social aspect of biotechnology in our society.

分子生物技術學是一門先進的現代綜合學科，在工業、農業、環境、醫療及藥物各方面，均有突破性的貢獻及廣泛的應用。本課程由生物化學及生物學專業老師聯合執教，為社會對分子生物技術的需求，培養專業人才。



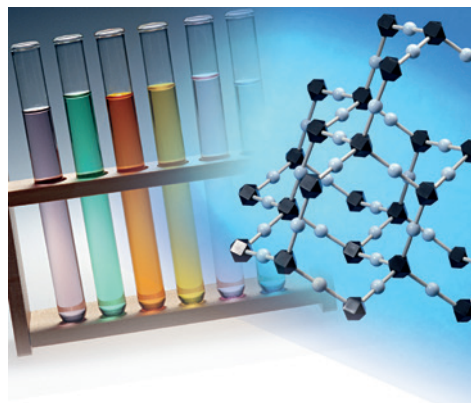
分子生物技術學是為同學提供綜合訓練。同學首先會獲得生物學、有機化學和數量科學的基本認識。同學需要建立從分子、遺傳、細胞，以至生物多樣性層面上的堅實基礎，增強能力及興趣。在高年班時，同學會專注於生物技術學，包括遺傳工程、分子生物學、生物化學方法、微生物、植物及動物生物技術學等專門科目。由於生物技術學是一門技術性強，應用性高，及發展迅速的學科，故課程設立不同科目讓同學學習嶄新的方法、技術及儀器。此外，課程將探討生物技術學在商業及社會的重要性。

CHEMISTRY 化學

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Chemistry is a “central science” with physics, mathematics and earth science on one side and the life sciences and medicine on the other. Traditionally, chemistry encompasses five major areas: analytical chemistry, inorganic chemistry, organic chemistry, physical chemistry and theoretical chemistry. The integration of two or more of these components gives rise to more specialised field in chemistry, such as Bioinorganic Chemistry, Organometallic Chemistry and Polymer Chemistry.

The Chemistry programme provides a basic training in modern chemistry. It is meticulously organised to give equal emphasis to theory and application. Students are given ample training in logical thinking. The programme is devoted to basic training in all disciplines of modern chemistry. Final year students may choose to carry out a research project under the supervision of an advisor. The research experience cultivates independent thinking and critical judgement, preparing them for further studies in chemistry.



化學是一門「中心科學」，一面是物理、數學和地球科學，而另一面則是生命科學和醫學。傳統上化學分為五個主要部份：分析化學、無機化學、有機化學、物理化學和理論化學。各範疇相互配合又可產生更專門的學科，如生物無機化學、金屬有機化學及高分子化學等。

化學主修課程組織嚴謹、理論及實驗並重、強調邏輯思維、旨在提供完整的現代化學基本訓練。課程不僅為學生在各個現代化學範疇上提供全面的教導，畢業班學生更可以根據個人興趣，選擇各種進階及專題科目，並參與專題討論，以增加對當今主流化學的理解，他們亦可以在老師指導下進行研究計劃，撰寫學士論文，以培養獨立思考和判斷能力，為攻讀高等學位打下穩固的基礎。



EARTH SYSTEM SCIENCE 地球系統科學

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Earth System Science (ESSC) studies the dynamics of the Earth as an interrelated system that includes the atmosphere, biosphere, geosphere and hydrosphere, as well as human impacts. Studying how our planet Earth works as a system constitutes the intellectual core and knowledge base for probing and solving many critical issues of public concern, such as global environmental change, biodiversity, air and water pollution, natural hazards, energy resources, and sustainability.

Our programme equips students with the necessary knowledge, analytical and quantitative skills, as well as research experience to tackle the major challenge of the 21st century, namely, our sustainable existence on this planet via a balanced and rational management of the environment and natural resources. To enhance students' experience, internships, field trips, and opportunities to participate in externally funded research projects are integral components of the curriculum. The interdisciplinary nature of the ESSC Major makes it excellent preparation for further study and employment in one of the many meteorological, environmental, energy resource and geotechnical careers available in the private and public sectors.

地球系統科學是學習和研究地球系統中各部份的運作過程，包括大氣圈、生物圈、岩石圈和水圈，以及人類活動對各個圈層的影響。全球環境變化、空氣與水污染、自然災害、能源和可持續發展均是社會及公眾所關注的重大問題。要解決這些複雜疑難的科學問題，視地球為一個內部間各部分相互作用的統一系統並了解此系統的動力學過程將至關重要。

本課程側重教授與地球系統相關的基礎科學，為學生提供必需的地球系統科學知識，定性與定量分析技能，以及相關研究經驗，從而令他們可以應對二十一世紀的一個重大挑戰，即通過對環境和資源的合理有效和平衡管理來確保人類在自己的星球上可持續性發展。校外的實習和本地及海外實地考察亦是本課程重要的組成部分，以增強學生多方面的實踐經驗。地球系統科學跨學科的特點為學生提供了優質教育與培訓，讓畢業生能勝任私營機構、政府部門、能源及岩土工程方面的工作。



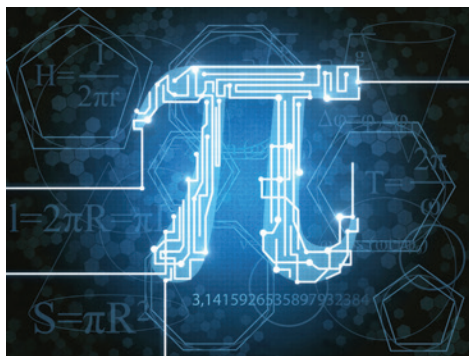
MATHEMATICS 數學

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Broad-based Admission Scheme is specially meant to increase the breadth of knowledge for students. The main feature of this programme is its flexibility. Students completing the first foundation year of the programme, which covers many different areas in scientific knowledge, can select Mathematics as major. The Mathematics programme provides students with transcending cross-discipline knowledge, and allows students to master the relationships and practical applications of different subjects. In the area of pure mathematics, the topics on offer include number theory, abstract algebra, real and complex analysis, functional analysis, differential geometry, topology and differential equations. In the area of applied mathematics, the topics on offer include probability, financial mathematics, operations research and logistics, optimisation theory, game theory, coding theory and cryptography and numerical analysis. As there would be no limit to the number of students for each major subject, students can choose their major subjects according to their interests.

The curriculum is highly flexible and provides students greater freedom to choose minor programme. Also, our undergraduates can enrich their learning experience in manifold ways through activities such as short-term research programmes, exchange programmes or internship trainings.



「理學」大類招生是為希望涉獵較廣泛知識的學生而設，課程的特色是有高度的彈性，同學於第一年完成涵蓋多門科學知識的基礎課程後，可於第二年選擇主修數學。數學主修課程為學生提供更多跨學科知識，使學生掌握更多不同學科的相互關係及應用。在純數學的範疇，可供選讀的科目包括數論、抽象代數、實和複分析、泛函分析、微分幾何、拓樸學及不同的方程式等；在應用數學的範疇，則有概率論、金融數學、運籌學與物流學、優選學、博弈論、編碼和密碼學及數值分析等科目。由於不設主修學科人數上限，所以同學的選擇可有很高的自由度。

這種富彈性的課程設計可讓同學因應自己的興趣選擇副修科目。此外，數學系同學亦可透過研究實習、交換生計劃及工作實習等活動，取得多元化的學習經驗。

PHYSICS 物理

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Physics is a study of the basic regularities behind the various complex phenomena in the physical world; and its scope ranges from the tiniest, like quarks in a proton, to the largest, like the universe. Building upon a tradition of excellence in teaching and research, the 4-year physics curriculum is strengthened in various aspects. The programme will continue to enable students to have a good grasp of fundamentals of physics and a basket of analytic, experimental, numerical, research, communication and other generic skills, and to appreciate and understand the important applications of physics in modern society.

The core part of the physics major curriculum builds a solid foundation for students. It consists of a calculus-based introductory physics series and courses in classical mechanics, electromagnetic theory, thermal and statistical physics, quantum mechanics and its applications to understand the behaviour and structure of matter at various levels, quantitative methods, experimental physics, student-centred learning, seminar, solid state physics and projects. Besides, the programme offers many elective courses; including courses in computational physics and simulations, astrophysics, meteorology, optics, nanoscience and technology, instrumentation, relativity, nuclear and particle physics, advanced courses that enrich the fundamental core courses, and postgraduate courses. Students may choose among these courses to fit to their own interest and career plan.



物理的範疇極其廣闊，不論小如質子內的夸克，還是大如無邊的宇宙，當中的現象都遵循一定的自然規律，可歸納為一些普遍性的原理和定律。建基於優秀的教學及科研傳統，本系將提供全面及充實的四年制物理課程，讓同學能充份掌握基本物理知識，並學習分析、實驗、數值計算、研究、溝通等專業和通用技能。同學在課程中還會明白及學懂如何欣賞物理在現代社會中的各種重要應用。物理主修課程旨在讓同學紮下堅實的物理根基，除一系列須應用微積分的物理學入門科目外，核心科目還包括經典力學、電磁學理論、熱與統計物理、量子力學及其應用、定量方法、實驗物理、學生為本學習、學術報告、固態物理學、物理專題研究等。此外，本系還設有多門選修科目，包括計算物理及模擬、天文物理、氣象學、光學、納米科學及技術、儀器學、相對論、核物理與粒子物理、高階核心科目、研究院程度科目等，同學可依自己的興趣及計劃選讀。

STATISTICS 統計學

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Statistics is a scientific discipline that focuses mainly on the collection, analysis and interpretation of data. It is fundamental to all fields within the natural sciences, medical sciences, social sciences, business and engineering, all of which require the quantitative analysis of data. To meet rising demand for well-trained statistics graduates in the Information Age, the programme's curriculum covers the core of the subject while maintaining a balance between theory and practice. Topics covered include the foundations of statistics, computing and data management, statistical theories and methods, and statistical applications in business, finance, medicine, actuarial science, quality control and risk management science. Three statistics streams are offered: (a) Data Science and Business Statistics, (b) Statistical Science and (c) Data Analytics. Two statistics streams are offered: Data Science and Business Statistics, and Statistical Science. Students have the freedom to choose any one of them, depending on their personal interests and career objectives. Students have the freedom to choose one of them, depending on their personal interests and career objectives.

Students majoring in Statistics are required to engage in workshops, case studies and projects under the supervision of teaching staff so as to broaden their statistical knowledge base, to hone their practical skills and to gain experience in handling real-life problems. Further, after completing their second year of studies with

satisfactory results, students are eligible to apply for a transfer to the Risk Management Science programme.



統計學是一門專注於數據收集、分析和解讀的科學。因此統計學在自然科學、醫學、社會科學、商科及工程學等需要對資料數據作出數量分析的學科中都極為重要。為了迎合現今資訊年代對全方位統計畢業生的上升需求，統計課程涵蓋了學科的核心部分，並就理論與實踐兩者之間作出了適當的平衡。統計科目廣涉基礎統計、計算與數據管理、統計學理論與方法，以及統計學於商業、金融、醫學、精算、品質控制和風險管理的應用。此外，學生可因應他們的興趣及就業計劃選擇加入「數據科學及商業統計組」、或「統計科學組」或「數據分析組」。

為了擴闊學生的統計知識，磨練他們的實用分析技巧，以及獲取處理真實問題的經驗，主修生需要在教師的指導下參與工作坊，進行事例研究和製作統計研究計劃。已修讀兩個學年並成績良好的學生可以申請轉讀風險管理科學課程。



EARTH SYSTEM SCIENCE (ATMOSPHERIC SCIENCE / GEOPHYSICS) 地球系統科學（大氣科學 / 地球物理）

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Earth System Science (ESSC) offers two streams, which target at students who want to pursue in-depth studies in either “Atmospheric Science” or “Geophysics”. Both programmes provide students with training in the basics of these sub-disciplines and introduce useful quantitative tools. Graduates are prepared for careers in academic or applied research in these fields. Students will gain early exposure to scientific issues, including the latest research topics, about the Earth System. We also provide opportunities for students to acquire valuable quantitative and analytical skills, and build their research and career capacities, via activities such as laboratory work, numerical modeling and programming experience, seminars, workshops and research projects. Further corroborating these are exchange opportunities to overseas universities, summer research and internships at the Hong Kong Observatory and geotechnical firms.

Students may take advanced undergraduate/graduate level courses in numerical methods, statistics, geophysics, atmospheric dynamics and chemistry. Our graduates can pursue postgraduate studies in Atmospheric Science or Geophysics; they are also well prepared for jobs in the government and industries such as geotechnical survey and engineering, meteorological service, as well as climate, energy and environmental consulting.

地球系統科學課程特別為追求深入研究大氣科學或地球物理的學生設立「大氣科學組」和「地球物理組」。目的在於培訓學生建立基礎和定量工具上的知識，並預備學生投身這些領域的專業，以及進行相關的學術或應用研究。在課程當中，學生有機會及早接觸大氣科學或地球物理的科學理論基礎，包括最前沿的研究課題，並提供機會讓學生獲得寶貴的定量和分析能力，通過如實驗室工作、數值模擬和編程經驗、研討會和研究項目等活動，來建立屬於自己的研究和職業技能。

除此之外，學生可進一步在海外大學進行交流，並在香港天文台和各岩土工程公司等作暑期或一年制實習。同學可選修數值計算方法、統計、地球物理學、大氣動力學和化學等的高級本科和研究生課程。本課程畢業生既可以繼續修讀大氣科學或地球物理學的研究生課程，亦具備足夠的基礎以投身政府或各相關行業的工作，例如岩土工程勘察和工程、氣象服務，以及氣候、能源和環境諮詢等。

ENRICHMENT MATHEMATICS

數學精研

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Enrichment Mathematics admits students via a programme-based admission scheme. It is specially for students who wish to develop a deeper understanding of mathematical theories. This programme is also suitable for students intending to pursue higher studies as it helps students to consolidate a strong mathematics foundation for doing academic research. Under this programme, students will be able to complete the required foundation subjects earlier, and will spend more time on mathematically sophisticated subjects. Pure mathematics topics include number theory, abstract algebra, real and complex analysis, functional analysis, differential geometry, topology and differential equations. Topics in applied mathematics include probability, financial mathematics, operations research and logistics, optimisation theory, game theory, coding theory and cryptography and numerical analysis. Competent students can also take graduate courses. At graduation, students will have gained wide and deep mathematical knowledge, and will be able to take up jobs which require strong knowledge and abilities in mathematics.

After finishing the first year of study in the programme, students with satisfactory performance can switch to “Mathematics and Information Engineering”.

數學精研是為希望學習較深入數學理論或有興趣從事數學研究的學生而設的，同時亦特別適合計劃升學深造的同學，為將來從事學術研究建立穩固根基。本課程的同學會較早完成必修的基礎科目，讓日後有充裕時間修讀高等科目。在純數學的範疇，可供選讀的科目包括數論、抽象代數、實和複分析、泛函分析、微分幾何、拓樸學及不同的方程式等；在應用數學的範疇，則有概率論、金融數學、運籌學與物流學、優選學、博弈論、編碼和密碼學、數值分析等科目。有能力的同學亦可修讀部份研究院科目。畢業生擁有廣闊而深入的數學知識，能勝任對數學知識及能力要求較強的工作。

此外，同學亦可透過研究實習、交換生計劃及工作實習等活動，取得多元化的學習經驗。如學生成績符合要求，可於升讀第二學年時選修數學與信息工程學課程。

ENRICHMENT STREAM IN THEORETICAL PHYSICS

理論物理精研

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The Enrichment Stream in Theoretical Physics is designed to train students with good foundation in secondary school physics and mathematics to have a solid grasp of fundamental concepts, analytic, numerical, computational, experimental, and research skills, and to appreciate and understand the important applications of physics in the modern world. Learning activities include lectures, small-group discussions, problem-solving sessions, laboratories, seminars, projects, and research. In addition to core courses, students can select from a pool of elective courses focusing on theoretical physics and mathematics. The Enrichment Stream in Theoretical Physics places special emphasis on project learning and building research capabilities. The Stream is particularly designed for students seeking postgraduate studies at the master's or doctoral level upon graduation.

Learning in the Enrichment Stream in Theoretical Physics is further supported by a number of special academic and extra-curricular enhancement programmes. These programmes include: mentoring; summer research in the department; research exchange to overseas and mainland universities; and internship in the Hong Kong Observatory, the Hong Kong Space Museum, as well as in

various companies. Graduates can continue to study higher degree programmes leading to MSc, MPhil and PhD degrees.

理論物理精研課程旨在訓練已擁有優良中學物理及數學背景的學生掌握物理的基礎概念，獲得分析、數值、電算、實驗及研究等技巧，並培養他們欣賞和了解物理在現代世界的重要應用。學習活動包括課堂講授、小組討論、習題班、實驗、研討會、專題研習及研究等。除必修科外，本課程同時安排一籃子專門的數學及理論物理的選修科目。理論物理精研課程特別強調專題研習及研究等元素，是為有志進修碩士及博士課程的同學設計的專科課程。

另外，理論物理精研課程亦提供各類學術和課外活動，包括：師友計劃、系內暑期研究訓練、海外/國內研究交流、本地實習計劃（曾參與機構有：香港天文台、香港太空館及其他相關公司等）。本系亦設有深造課程：物理學理學碩士、哲學碩士及博士課程。

QUANTITATIVE FINANCE AND RISK MANAGEMENT SCIENCE

計量金融學及風險管理科學

☎ 3943 1853/ 3943 1746

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The BSc in Quantitative Finance and Risk Management Science Programme (QFRM) is jointly administered by the Department of Finance and the Department of Statistics. It combines the strengths and features of two well-established and highly successful programmes from the Quantitative Finance programme and the Risk Management Science programme. The Programme is consistently ranked at the top among all quantitative related programmes in Hong Kong in terms of admission credentials.

As a major financial service centre, Hong Kong has a growing demand for professionals with both quantitative finance and risk management science background. The programme provides state-of-the-art training in business and finance, risk management science, mathematics and statistics, and computing applications. By offering comprehensive academic and professional training, the Programme aims to nurture competent finance and risk management professionals who can work in investment banking, corporate and commercial banking, consulting, accounting and financial services, as well as in general management in the financial and government sectors. With our official tailor-made coaching schemes, students are also encouraged to participate in overseas exchanges and internships.

The Programme has established strong networks and partnerships with the finance industry over the years. Outstanding performance during internship renders strong

motives for companies to offer permanent positions upon graduation. The Programme also enables students to build up a solid theoretical background for pursuing further study, at the Master or PhD levels, in economics, finance, actuarial science and insurance, mathematics, statistics and risk management science.

計量金融學及風險管理科學學士課程由統計學系和金融學系合辦。課程涵蓋兩學系的兩個信譽卓著及非常成功的課程：計量金融學和風險管理科學課程。本課程過往都是招收在公開考試中名列前茅的學生。

香港作為主要金融服務中心，對計量金融學和風險管理科學人才的需求持續增長。課程提供最先進的訓練，範圍包括商業和財務、風險管理科學、數學與統計，和電腦應用。此外，課程還提供全面的學術和專業培訓，旨在培養財務和風險管理專家。畢業生可加入投資銀行、企業及商業銀行、顧問機構、會計、金融服務行業，以及金融和政府部門的綜合管理。我們亦鼓勵學生參加海外交流和實習計劃，並安排相配合的職前培訓。

多年來，課程在金融行業建立了強大的網絡和夥伴關係。學生在實習時的良好表現鼓勵了企業為他們於畢業後提供工作機會。課程更為學生建立紮實的理論基礎，為學生將來在經濟學、金融學、精算學、保險學、數學、統計及風險管理科學上晉升碩士或博士作好準備。

RISK MANAGEMENT SCIENCE

風險管理科學

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🏠 www.sta.cuhk.edu.hk/RMSC/



Financial crises in the past have stimulated not only public interest in risk management, but also their awareness of its importance in today's investment environment. A good understanding of risk management is vital to many companies. Risk Management Science is a highly quantified, scientific and methodological subject. This programme is designed to fulfil the growing demand of expertise in this area.

The programme, administered by the Department of Statistics, is designed for students seeking a career in financial and insurance institutions and having a strong aspiration in the scientific methodologies. Statistics constitutes an indispensable component of risk management since it provides the theoretical and practical underpinnings of risk management models. As risk management is an interdisciplinary subject, students of this programme not only receive a solid training in statistics, but also a comprehensive exposure to other subjects such as finance, economics, accounting, mathematics, and computer science. The core programme comprises of courses from various departments such as numerical methods, portfolio managements, financial economics, data structures, and accounting principles.

過往的國際金融風暴不單提升了公眾對風險管理的警覺性，更讓工商界體會到準確評估風險，進而有效地管理風險對行業生存的重要性。對於瞬息萬變的金融市場而言，風險管理的地位就更為明顯。風險管理科學是一門高度量化的科學方法科目，本課程是因應社會對這方面人才的渴求而設。

本課程由統計系開設，適合對理科有濃厚興趣而又想投身金融或保險業發展的同學。統計學為風險管理模型，提供了理論和應用的依據，因此成了風險管理科學必然的組成部份。正因風險管理是一門跨領域的學科，修讀此課程之同學不僅需要接受嚴謹的統計學訓練，還要廣泛接觸其他學科，例如金融、經濟、會計、數學和電腦科學。核心課程亦包括有其他學系的科目，如數值方法、組合管理、金融經濟、數據結構和會計原理。

NATURAL SCIENCES

自然科學

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The Science Faculty is dedicated to educating and inspiring the next generation of scientific innovators and leaders. The BSc in Natural Sciences programme has been designed to meet the growing needs for opportunities for further study amongst graduates of sub-degree programmes. Supported by 12 programmes housed in the Science Faculty, this senior-year entry programme offers a flexible, yet quality articulation programme that meets the needs and interests of sub-degree graduates from a wide range of scientific backgrounds.

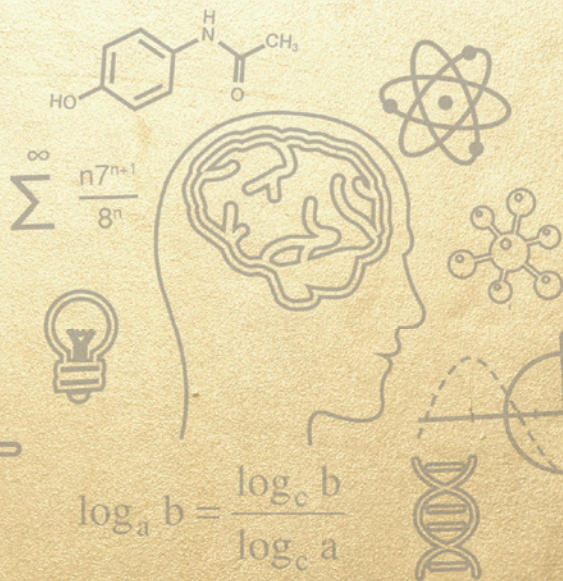
The normative study period for this programme is two years, during which students must complete at least 51 units of science courses, including 30 units from one of seven concentration areas: **Biological Sciences, Biotechnology, Environmental Studies, Food and Nutrition, Chemical Sciences, Mathematical Sciences, and Physical Sciences.** Graduates can look forward to career opportunities similar to those available to graduates of the Faculty's four-year science programmes. Those who demonstrate good academic performance also have opportunities for postgraduate study.

理學院致力於培育及啟發新一代科學領袖及革新者。自然科學課程由十二個理學本科課程支援，是為副學位畢業生提供持續進修機會而設。這個嶄新、優質而又富彈性的課程，適合來自不同背景的副學位畢業生選讀。

這個課程的常規修業期為兩年，學生須修滿最少51個理科學分，包括於一個專修範圍內修滿30學分。課程分為七個專修範圍，分別為生物科學、生物技術學、環境研究學、食品及營養學、化學科學、數學科學及物理科學。本課程畢業生將與四年制本科課程畢業生享有相近的工作機會，而成績表現出眾的畢業生更有機會進研究院繼續深造。



$$\log_a b = \frac{\log_c b}{\log_c a}$$



STUDENT SHARING

學生分享

Internships 工作實習	36
Research Opportunities 研究機會	40
Student Exchanges 交換生計劃	43

STUDENT SHARING 學生分享

Our undergraduate curriculum aims at training all-rounded students who move on to be tactful contributors in all areas. The Faculty offers a diverse teaching and learning approach to ensure that our students are exposed to the most suitable and effective learning methods, and becoming high-achieving, all-rounded individuals.

In addition to our rigorous curriculum including lectures, tutorials and laboratory sessions, we encourage all students to take part in a range of activities to increase their exposure and boost their university experience. Such activities come in the form of:

- Internships
- Research Opportunities
- Student Exchanges

Through these experiences, students are able to enhance their ability to communicate and gain world perspective, which helps to prepare them for upcoming challenges in our ever-changing world.

Here's what our students say!



理學院的本科課程注重全人發展及旨在培養全面的學生，讓畢業生能勝任各範疇的崗位並作出貢獻。學院提供多樣化的教學和學習方式，以確保學生體驗到最合適、最有效的學習方法。

除了日常課堂、導修和實驗輔導外，我們亦鼓勵學生透過多元學習體驗，接觸多方面的知識以豐富大學生活。多元學習體驗包括：

- 實習體驗
- 研究機會
- 交換生計劃

透過這類體驗，學生能夠增強溝通技能、提升解決問題的能力及擴闊視野，並有助學生迎接將來遇到的挑戰，在變化不斷的世界中脫穎而出。

看看我們學生的分享吧！

Internships 實習體驗

Taking part in an internship is a great way for students to acquire a better understanding of the working environment of a specific industry. It prepares them for employment, and helps to establish networks before graduation. The Faculty collaborates with many partners around the world (ranging from scientific laboratories to banks; and from NGOs to corporates etc.) to offer internship opportunities for our students, allowing them to have a taste of work and accumulate working experience, whilst getting to know other cultures.

理學院與世界各地的合作夥伴（包括科學實驗室、銀行、非政府組織、企業等）為學生提供各種實習機會。學生除了能一嘗工作的滋味及積累經驗外，也可以更進一步了解各地文化。有機會於畢業前了解不同行業的工作環境及建立人際網絡，對學生將來投身社會很有幫助。

Chou Hiu-Lam

Major: Quantitative Finance and Risk Management Science
Company: Goldman Sachs
Location: Hong Kong

The flexible curriculum design of QFRM helps to prepare its students in the pursuit of future careers. I worked as an intern at Goldman Sachs, focusing on equity research. My team was responsible for spotting sustainable investment ideas, over a 3-5 year horizon, by considering returns, industry positioning, and environmental, social and governance. I worked on a big project concerning how market structure changes in China can affect the profitability of companies. My role was to help build a database and conduct analysis, monitoring changes in the consolidation progress of industry sectors, which could provide a scorecard framework for other teams in future.

QFRM provided me with a solid foundation in my understanding of market dynamics. It also encouraged critical thinking and independent thoughts in its students. I had benefited greatly from its highly collaborative and inquisitive culture.

QFRM具靈活性的課程，為學生的事業打好基礎。我在高盛實習時隸屬於專責研究股票的團隊，從其三至五年間的回報、行業定位、對環境及社會的影響，和項目管理的角度搜尋可長遠發展的投資概念。我參與的大型項目研究中國的市場變動如何影響公司的利潤，而當中我負責協助建立資料庫、進行分析和監察行業合併過程的變化。這為其他團隊建立起評分架構。

QFRM令我有紮實的基礎去理解市場動態，亦鼓勵學生有批判性和獨立思考。我在融洽和好學不倦的氣氛下獲益良多。



Lam Ka-Hei

Major: Life Sciences
Institute: PURPAN
Location: Toulouse, France



The internship program included lectures about the European agricultural policy and animal welfare issues, which enriched my knowledge about agriculture. Besides, there were visits to farms, breweries, cookies and cheese factories, which helped students to understand the real life applications of agriculture. The visits and the lectures also allowed me to learn more about food production. The opportunity to study alongside of other overseas students was also a bonus and broadened my exposure to the world.

Meanwhile, the internship on the farm and the experience of living with the host family gave me an insight to the lifestyle of a farmer and French culture. I have also learned a lot about the growth of kiwis and animals, as well as the management of a farm. Overall, it was a meaningful and memorable experience.

這個實習體驗分為一個月的課堂和一個月的農場工作。透過參觀不同的工廠、農場和在奇異果農場實習的經驗，我可以更了解歐洲的農業發展、食物的製作過程，也令我體會到法國人對食物的尊重。另一方面，除了學習農業知識外，在農場和當地人生活及跟國外學生一起上課亦讓我體驗到不同國家的文化。總括而言，這兩個月的活動豐富，讓我獲益良多。



Lee Ka-Ho

Major: Risk Management Science
Company: DBS Bank (Hong Kong) Limited
Location: Hong Kong

I worked as an intern at the Technology and Operations Group of DBS Bank (Hong Kong) Limited between June and December. I was assigned to a project on Business Intelligence, which focused on Qlikview development. Business Intelligence is a set of techniques which transform raw data into meaningful and useful information for business analytical purposes. In this area, Qlikview is powerful in terms of data consolidation, visualization and association exploration. It is widely used in different financial institutions for data modelling and visualization. I, as a team member in Strategic Planning and Transformation, am thankful for the valuable opportunity to acquire hands-on experience with business analytical tools in the banking industry.

Apart from Qlikview development, I participated in different business events, such as networking at the Town Hall, innovation forum, offsite meetings, etc. These events broadened my horizons regarding the banking industry, and I learnt to collaborate with my colleagues. I was introduced to design and data visualization through business events, and my colleagues shared with me some key concepts on project management in the business world. These experiences contributed a great part to making the internship fruitful.

I would like to show my heartfelt thanks to the Department of Statistics, CUHK and DBS Bank (Hong Kong) Limited for bestowing me this internship opportunity and assisting me in learning outside the classroom. I sincerely hope that there will be more internship opportunities on Business Intelligence project development for students in the future so that they could also enjoy the benefits and understand its importance in the business world. I am sure that they will benefit from this kind of internship programs at least as much as I did.

六月至十二月期間，我參加了星展銀行(香港)有限公司的實習計劃。我獲分配參與有關商業智能的項目，進行資料整理、分析，以及數據建模。作為科技與營運部的一份子，我有幸能夠參與項目管理的工作並掌握運用商業分析軟件的技巧。此外，我亦參與了公司不同的會議。在會議期間，我有機會展示及匯報工作成果，也得到同事分享項目管理的經驗及要訣，對於我將來從事金融行業有很大啟發。

我感謝香港中文大學統計系和星展銀行(香港)有限公司給予寶貴的實習經驗，以及提供書本以外的學習平台。我希望將來會有更多有關商業智能的實習計劃供學生參加，相信他們亦能從中獲益。



Kam Pui-Man Mannie

Major: Earth System Science

Organization: Hong Kong Observatory

Location: Hong Kong

Having been able to work in the Hong Kong Observatory was one of the most unexpected, yet fruitful, experience in CUHK. I still remember the butterflies in my stomach on my first day at work, as I had no previous experience in a workplace. Fortunately, my colleagues there were very friendly and willing to guide me throughout the placement.

During my one-year internship I was responsible for mapping the monthly rainfall map in Hong Kong by using different interpolation methods. Though there were many limitations when approaching the problem and the final results was not very significant, this opportunity has given me a handful of experience in doing research and knowing my strengths and weaknesses in solving scientific problems.

Besides work, the staff at HKO have kindly acted as our guides and took us out on several outings to explore places such as the King's Park Meteorology Station and the office in Air Traffic Control tower. I have gained more insight about jobs at the observatory and would strongly recommend those who are interested in this field to participate in this placement.



我有幸到香港天文台實習一年，雖然我沒有任何相關的工作或研究經驗，但天文台的同事們都十分願意指導我，令我獲益良多。我的主要工作是利用克里金的估值方法改善原有的每月雨量圖，過程當中我學習到科學研究的方法，如我將來有意繼續在學術科研方面發展的話，必定大有幫助。在工作以外，天文台的同事亦樂於當我們一眾實習生的導遊，帶我們到京士柏氣象站、大帽山雷達站及機場控制塔參觀，使我們更了解天文台的工作。我鼓勵對天文台運作或對相關方面感興趣的同學參加此實習體驗。

Research Opportunities 研究機會

The Faculty operates a number of research schemes for undergraduates to take part in. Many students choose to work in professors' labs to conduct research in their areas of interest to better prepare themselves for their further studies. In addition, Undergraduate Research Exchange programmes such as COSINE, DREAM, OPUS, SURE and University System of Taiwan – CUHK Student Summer Exchange Research Program (UST-CUHK) are perfect opportunities for those who have a great interest to further develop skills and knowledge, as well as building a research profile. These opportunities allow our students to mature as a researcher. Students can also opt to enter international competitions, such as iGEM, to attest their scientific finesse.

部分理學院本科生會選擇參加研究工作。學生可以透過大學不同的研究計劃參與鑽研及探討心儀的題目，為將來繼續深造作準備。理學院更會安排學生參加研究交換計劃，例如COSINE、DREAM、OPUS、SURE和UST-CUHK等。這些都是拓展技能和增進知識的難得機會，並能同時協助本科生建立個人研究履歷。除此之外，學生亦可以透過參加國際比賽，如國際基因機器設計賽(iGEM)，證明他們對科學的熱誠和實力。



Mak Sze-Ning

Major: Physics

Programme: SURE

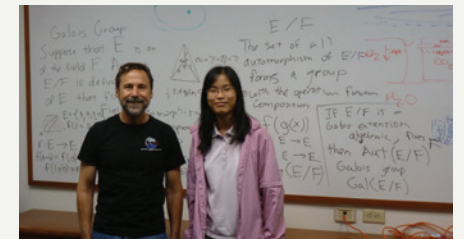
Institute: California Institute of Technology, Pasadena, USA

Supervisor: Professor Yuk L. Yung

Research Title: Cloud screening algorithm for OCO-2; Evaluation of cloud simulations in AMIP climate models using ISCCP observations

In the Division of Geological and Planetary Sciences in Caltech, I met great professors, research scientists, graduate students and undergraduate summer students. We were all from different backgrounds, like physics, environmental engineering, chemical engineering and computer science. When we had academic discussions, we always came up with new ideas. They often had crazy ideas and they dared to carry them out. This made me feel that nothing could stop us from pursuing knowledge. Moreover, lots of satellite data collected from Jet Propulsion Laboratory (JPL) is available to Caltech researchers, including the data of atmospheric and oceanic variables of the Earth. Through analyzing these data, we evaluated and compared different climate models. From this, we could better understand climate change.

我在加州理工學院的地質與行星科學部門裏遇到了友善的教授、科研人員、研究生，和其他做暑期研究的本科生。我們都來自不同背景，如物理、環境工程、化學工程、計算機科學等。當大家交流時，往往能激起新的意念。他們大膽創新，勇於嘗試，讓我感受到大家對知識無限制的追求。加州理工更擁有許多由噴氣推進實驗室收集的衛星數據，包括地球的大氣層和海洋變數。通過分析這些數據，我們可以比較不同的氣候模型，從而增進對氣候變化的理解。



Wong Yim-Fung

Major: Chemistry

Programme: University System of Taiwan – CUHK
Student Summer Exchange Research Program
台灣聯大 - 港中大理學院學生暑期研究交流計劃 (UST-CUHK)

Institute: National Tsing Hua University (Chemistry Department), Taiwan

Supervisor: Professor Leow Da-Sheng

Research Title: Photocatalysis of organic reactions

The UST-CUHK program had given me the opportunity to engage and participate in chemistry research. At the beginning, I was not familiar with the research and the academic journals were difficult to understand. With my limited knowledge of chemistry, I needed to find my own way to learn. Luckily, the professor had given me a lot of support and the students there were really helpful. Even though I encountered difficulties, I never lighted off my perseverance. I understand that research is a lifelong job and we need to compete with time. I really appreciate the hard work of the researchers.

In these two months, I had learned not only the skills of doing research, but also I had met many new friends there, this experience has really enriched my life.

暑期研究交流計劃讓我有機會認識實驗研究是什麼的一回事。雖然一開始時並不熟悉研究的專題內容，在看論文時亦看不明白，但在教授和當地研究生帶領下，我開始掌握研究方向，慢慢嘗試不同的化學反應。不停地嘗試，同時又不停地失敗，心情會有低落，身體亦覺疲累。我當時真的好佩服做研究的學者，花盡一生努力，最後得到成果真是一件不簡單的事，研究也要跟時間做競賽，別人比你快做出結果來的話，你的功夫便會白費，時間一分一秒都很寶貴。

除了在學術研究方面，我亦在這個交流計劃中感到喜樂滿足。台灣人熱情和好客的性格，讓我很快便能融入台灣的生活，慢慢適應當地的文化。實驗室內亦有許多學生幫忙做研究，他們都很隨和，很容易相處。當我遇到問題時，他們亦非常樂意為我解答。假日的時候他們都會陪我到處遊歷，讓我體驗更多。交流的時間過得很快，由最初的陌生到現在的不捨，中間的過程經歷了許多，又成長了。



Chen Xinshi

Major: Mathematics

Programme: COSINE

Institute: Oak Ridge National Laboratory, Tennessee, USA (ORNL)

Supervisor: John Drake, Joshua Fu, Kwai L. Wong

Research Title: Modeling Chemical Transport with Galerkin Methods

I took part in an internship program in ORNL. It was an awesome tour, from which I learnt high-performance computing skills, as well as worked on computational problems using programming tools such as Linux and C programming.

Fourteen students took part in this program, 10 selected from colleges across the U.S. and 4 from CUHK. I was partnered with Sam, a student from University of North Carolina, who majored in both Mathematics and Physics. Sam impressed me with his self-learning ability, especially his efficiency while reading abstruse academic papers.

We read academic papers related to the project, constructed programmes, made a poster to show our findings, and gave a semi-formal final presentation at the end. I was impressed with how much I learned within two months, perhaps even more than what I could learn during a whole semester in school.

Our supervisor, Dr. Wong, was really helpful and caring. I have to say he was stringent on work and pushed us to work hard. However, after work, he often invited us to his home for dinner.

At weekends, we had pool parties and zoo trips regularly. It was good to get to know and communicate with those amicable and funny American guys, who seemed frivolous at first, but in fact, are polite and thoughtful. I am glad to have met them.

我到美國參加了一個實習項目。期間主要學習了關於高性能計算機的知識，並且用計算機工具（例如Linux、C語言）與數學知識來解決一些數值問題。

這個項目有10名來自美國各地的大學學生及4名來自香港中文大學數學系學生。我與來自北卡羅萊納大學的Sam一同完成一個課題。Sam在這兩個月給我留下了非常深刻的印象，因為他的自學能力和閱讀論文的效率很高。我們須要閱讀論文、編程、做展示板，並且在項目結束時進行成果演示。開始閱讀這些學術性論文時是頗有難度的，慢慢才能適應這種節奏。我很高興我這兩個月學會了很多，甚至比在學校一個學期還要多。

不論工作，還是日常生活，導師都給了我很多幫助。在工作上，他雖然非常嚴厲，使我們不敢怠慢，但工作結束後，他又會很熱情，經常邀請我們作客吃飯。

週末的時候，我們會跟美國同學們舉行泳池派對、外出郊遊等。這些美國同學表面上看似很隨意，實際上我認為他們很有禮貌，也很會替別人著想，我很高興能認識他們。



Student Exchanges 交換生計劃

Want to spend a year, a term or a summer at another university? We have just the right thing for you!

Our students have the access to a multitude of exchange programmes, and can spend a summer, a semester, or even a full academic year abroad. There are three types of exchange opportunities:

- University-wide Exchange
- College-based Exchange
- Faculty/Departmental Exchange

Because of the broad range and flexibility of the available opportunities, we are almost certain that our students will find something that suits their desire.

有沒有想過在外地留學一段時間?

香港中文大學與多間院校合作，提供不少交流機會。學生均可申請當交換生，於海外大學進行為期一年、一個學期或一個暑假的交流活動。交流機會分為三種類型：

- 大學交流計劃
- 書院交流計劃
- 學院/部門學生交流計劃

交流機會數之不盡，且靈活性高，我們肯定理學院的學生會找到適合自己的機會。

Lu Kannan

Major: Physics

Institute: University of California, Berkeley, CA, USA

I am grateful to be offered the chance to study in UC Berkeley for my second semester of my junior year, where I was exposed to many opportunities. The academic life in Berkeley was both challenging and fascinating, where I could attend seminars run by top researchers and discuss homework problems with brilliant minds around the world. Most students regard exchange experience as a journey of seeking the love for life. Berkeley has everything that one could dream of. We had delicious food, met lovely people and went to incredible resorts nearby. Moreover, the study in Berkeley really laid a solid foundation for future career.

Berkeley has an extremely large science faculty and as a physics student, it was a chance for me to keep a few connections here in Berkeley. I had an 1-on-1 reading course with string theorist Prof. Gaillard from March to June in which I learned basic materials on particle physics, for instance, symmetries, Feymann Rule, Fermi Golden Rule, Dirac Equation, Quantum Electrodynamics, Parton model etc. It was indeed tiring during the semester to work on these extra reading materials but I was sure it was worthwhile.

In summer, I managed to extend my stay by working in Prof. Analytis' Quantum Material Lab. I had a chance to work both in Lawrence Berkeley National Lab and campus to synthesize high temperature superconductor and characterize their properties especially near quantum criticality.



By getting myself maximally exposed to different academic activities, not only did I learn various skills, bonded connections but also found my interest that I decided to pursue in the future. It was enjoyable and rewarding.



很感激能參加這次加州伯克萊大學的交流學習。在伯克萊的學習非常緊張亦很有樂趣，因為我可以在這裡參加一些學術界頂級學者的研討會，同時和我一起學習討論的同學也都很優秀，他們的背景亦很多元化。很多學生通過交流活動成功地與生活熱戀，而伯克萊亦擁有很多讓你陷入熱戀的理由。我們能在周邊吃到各國美食、遇見友善的人、遊覽美國其他名勝也很方便。

伯克萊擁有一個規模宏大的理學院，這為物理專科的我提供了很多機會。

在交流期間，我有幸能向一位弦理論家Prof. Gaillard學習基本的粒子物理知識，比如對稱、費曼法則、費米黃金法則、狄拉克方程、量子電動力學等。除了恆常學業，還要兼顧這些額外的學習。雖然辛苦，但我感到非常值得。

除此之外，我也在Prof. Analytis的量子材料實驗室工作，並參與勞倫斯國家實驗室和伯克萊校園的高溫超導體合成以及性質分析等研究。

藉著接觸不同範疇的物理，我不僅認識了很多不同領域的專家，也發現了自己最鐘愛的領域，同時對未來有了更清晰的規劃。總括而言，我很享受這個交流過程。

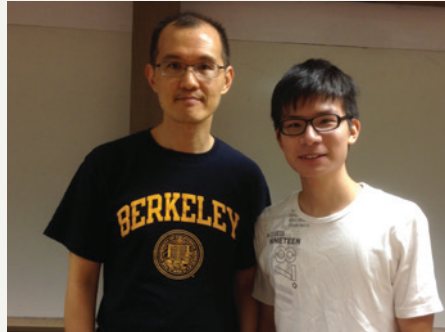
Tam Hoi-Ming

Major: Statistics

Institute: National University of Singapore (NUS)

Location: Singapore

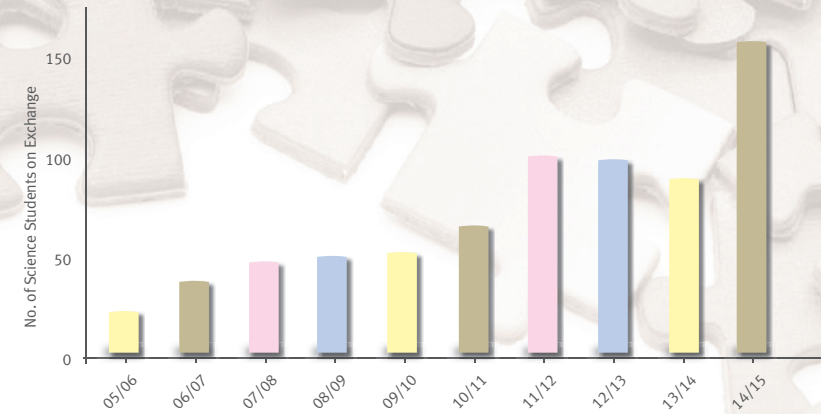
It was a great opportunity to have been an exchange student at one of the most renowned universities in Asia. Riding on the school bus, running through a huge campus and discussing the quality of the numerous restaurants on campus are familiar activities that a CUHK student will experience at NUS. I feel blessed to have such a familiar, yet different daily life at NUS. During my time in Singapore, I have met some close friends and developed myself together with them. Moreover, I have attained various first-time achievements, which have helped me to grow, for example: travelling with friends and joining an orienteering competition overseas etc. These important events were undoubtedly milestones in my life.



我很高興有機會在亞洲首屈一指的學府當交換生。在新加坡國立大學偌大的校園中乘校車、跑步、討論校園內眾多餐廳的優劣、享受這些熟悉但韻味不同的日常點滴，對我而言已是一種幸福。在新加坡的一個學期裡，我結識了一班知心好友，與他們一同成長。我亦實現了很多重要的「第一次」，例如第一次與朋友周遊列國、第一次在國外參加野外定向比賽等，這些經歷已成為我人生重要的里程碑。

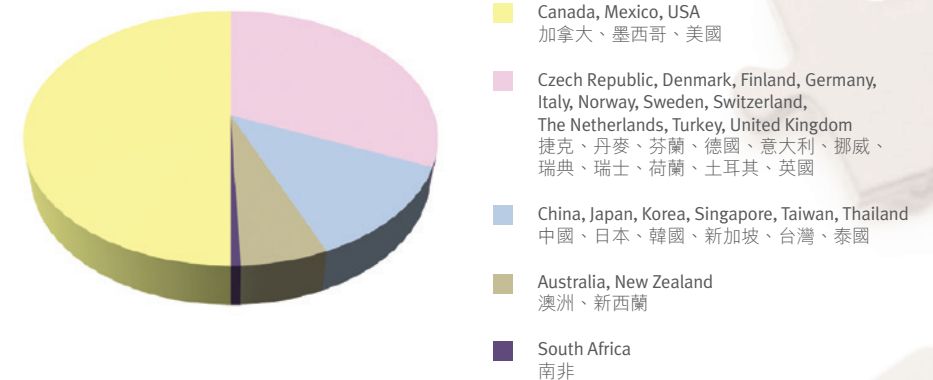
Statistics on Science Students on Exchange in Recent Years

理學院近年交換生統計



Outgoing Science Exchange Students by Destination

理學院交換生之目的地



Selected list of Exchange Universities

The University offers over 230 student exchange programmes in 30 countries / regions. For complete and update information, please refer to the Office of Academic Links website (www.oal.cuhk.edu.hk)

部分接待交換生的大學

大學在30個國家/地區提供超過共230個交換生計劃。
所有交流資料以學生交流處網頁 (www.oal.cuhk.edu.hk) 為準。





ADMISSIONS

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APPLICATION CHANNELS

JUPAS

Current Secondary 6 students or private candidates with Hong Kong Diploma of Secondary Education (HKDSE) results can apply through the JUPAS scheme. Applications should be submitted online to the JUPAS Office website.

Non-JUPAS

Students who are applying on the strength of qualifications other than the Hong Kong Diploma of Secondary Education (HKDSE) are considered as non-JUPAS applicants. These students would have obtained results which qualify university admission in its own right. Such results include (but are not limited to) GCE A-Levels, IB Diploma, Associate Degree, Higher Diploma, Hong Kong Advanced Level (HKAL), high school diploma plus SAT, Gao Kao in China, UEC/STPM in Malaysia, ATAR in Australia, OSSD in Canada, GSAT in Taiwan or any other equivalent. Non-JUPAS students fall into the following 3 categories.

- International students who require a student visa to study in Hong Kong
- Local students
- Mainland students who are current Gao Kao candidates

Non-JUPAS student applications are considered on a case-by-case basis, taking into account of individual merits. Non-JUPAS Local and International students should submit their applications directly to the University's Office of Admissions and Financial Aid (Oafa). Current Mainland Gao Kao candidates should apply through the National Colleges and Universities Enrolment System.

For detailed information about all entrance requirements (including language requirements), please refer to the Office of Admissions and Financial Aid website (www.oafa.cuhk.edu.hk).

入學途徑

大學聯合招生 (聯招)

現正就讀中六的學生或持有香港中學文憑成績的自修生可透過互聯網向「大學聯合招生處」提交申請。

非聯招

持有香港中學文憑以外成績的學生，例如：GCE A-Levels、IB Diploma、副學士/高級文憑、香港高級程度會考、美國高中文憑及SAT、馬來西亞UEC/STPM、澳洲ATAR、加拿大OSSD、台灣GSAT等，可透過非聯招途徑入學。非聯招入學主要分為3個類別：

- 國際學生 (持有學生簽證的海外來港學生)
- 本地學生
- 內地應屆高考生

有意報讀全日制課程的非聯招本地或國際學生可直接與入學及學生資助處聯絡及於網上提交申請。內地應屆高考生則應透過「全國普通高校統一招生計劃」申請入學。

所有入學資料及收生要求(包括語文要求)，請參考入學及學生資助處網頁(www.oafa.cuhk.edu.hk)。

PROJECTED ENROLMENT

預期收生人數 (2017-18)

Programme 課程		
JS4601	SCIENCE # 「理學」 #	397
JS4633	Earth System Science (Atmospheric Science / Geophysics) 地球系統科學 (大氣科學 / 地球物理)	20
JS4682	Enrichment Mathematics 數學精研	27
JS4690	Enrichment Stream in Theoretical Physics 理論物理精研	20
JS4276	Quantitative Finance and Risk Management Science * 計量金融學及風險管理 科學 *	20
JS4719	Risk Management Science 風險管理科學	27
---	Natural Sciences ^ 自然科學 ^	50

* The inter-disciplinary major programme in Quantitative Finance and Risk Management Science is jointly offered by the Department of Finance and the Department of Statistics

計量金融學及風險管理科學跨學科主修課程是由財務學系及統計學系合辦

SCIENCE is a broad-based admission programme including the following subjects: Biochemistry, Biology, Cell and Molecular Biology, Chemistry, Earth System Science, Environmental Science, Food and Nutritional Sciences, Mathematics, Molecular Biotechnology, Physics and Statistics

「理學」大類收生課程包括以下課程：生物化學、生物學、細胞及分子生物學、化學、地球系統科學、環境科學、食品及營養科學、數學、分子生物技術學、物理及統計學

^ A 2-year programme for articulation of local Associate Degree/Higher Diploma Holders

為持有本地認可之高級文憑或副學位資歷人士而設的兩年制銜接課程

JUPAS ENTRANCE REQUIREMENTS

The minimum eligibility to apply for admission is 4 core subjects and 2 elective subjects (4C+2X or 4C+1X+M1/M2), with the minimum requirements for the 4 core subjects of Chinese Language, English Language, Mathematics, and Liberal Studies at levels 3322 respectively. Programme-specific minimum requirements are detailed below.

Programme 課程	Elective Requirements 選修科目要求 (X)		Other Additional Requirements/Remarks 其他附帶要求/備註
	Subject 科目	Level 等級	
JS4601 SCIENCE 「理學」	Any one subject from the following: 下列一科選修科目： - Biology 生物 - Chemistry 化學 - Physics 物理 - Combined Science 組合科學 - Integrated Science 綜合科學 - Mathematics (Module 1 or 2) 數學科(單元1或2)	Level 3 第三級	Bonus points would be offered to the 3rd elective subject in Category A. 第三個甲類選修科目可獲額外加分。
	Any one subject in Category A# 一科甲類選修科目#	Level 3 第三級	
JS4633 Earth System Science (Atmospheric Science / Geophysics) 地球系統科學(大氣科學/ 地球物理)	Any one subject from the following: 下列一科選修科目： - Physics 物理 - Mathematics (Module 1 or 2) 數學科(單元1或2) - Chemistry 化學 - Geography 地理 - Combined Science 組合科學	Level 4 第四級	English Language Level 4 英國語文 第四級 Mathematics Level 4 數學 第四級
	Any one subject from the following: 下列一科選修科目： - Physics 物理 - Mathematics (Module 1 or 2) 數學科(單元1或2) - Biology 生物 - Chemistry 化學 - Geography 地理 - Combined Science 組合科學 - Integrated Science 綜合科學	Level 3 第三級	
JS4682 Enrichment Mathematics 數學精研	Mathematics (Module 1 or 2) 數學科(單元1或2)	Level 4 第四級	Mathematics Level 4 數學 第四級
	Any one subject from the following: 下列一科選修科目： - Biology 生物 - Chemistry 化學 - Physics 物理 - Combined Science 組合科學 - Economics 經濟 - Geography 地理 - Information and Communication Technology 資訊及通訊科技 - Integrated Science 綜合科學 - Technology and Living (Food Science & Technology) 科技與生活(食品科學與科技)	Level 3 第三級	

聯招入學要求

入學申請最低要求為四個核心科目另加兩個選修科目(4C+2X或4C+1X+M1/M2)。四個核心科目：中國語文、英國語文、數學及通識教育的最低等級要求分別為3322。個別課程之最低入學條件詳見下表。

Programme 課程	Elective Requirements 選修科目要求 (X)		Other Additional Requirements/Remarks 其他附帶要求/備註
	Subject 科目	Level 等級	
JS4690 Enrichment Stream in Theoretical Physics 理論物理精研	Physics 物理	Level 4 第四級	Mathematics Level 4 數學 第四級 Bonus points would be offered to the 3rd elective subject in Category A. 第三個甲類選修科目可獲額外加分。
	Any one subject from the following: 下列一科選修科目： - Mathematics (Module 1 or 2) (preferred) 數學科(單元1或2) (建議科目) - Biology 生物 - Chemistry 化學 - Combined Science 組合科學 - Economics 經濟 - Geography 地理 - Information and Communication Technology 資訊及通訊科技 - Integrated Science 綜合科學 - Technology and Living (Food Science & Technology) 科技與生活(食品科學與科技)	Level 3 第三級	
JS4276 Quantitative Finance and Risk Management Science 計量金融學及風險管理科學	Any two subjects 兩科選修科目	Level 3 第三級	Mathematics Level 3 數學 第三級
JS4719 Risk Management Science 風險管理科學	Mathematics (Module 1 or 2) 數學科(單元1或2)	Level 3 第三級	Mathematics Level 3 數學 第三級
	Any one subject in Category A# 一科甲類選修科目	Level 3 第三級	

Preferred subjects: Biology, Chemistry, Physics, Combined Science, Economics, Geography, Information and Communication Technology, Integrated Science, Mathematics (Module 1 or 2), and Technology and Living (Food Science & Technology)
建議科目：生物、化學、物理、組合科學、經濟、地理、資訊及通訊科技、綜合科學、數學科(單元1或2)、科技與生活(食品科學與科技)

For complete and update information, please refer to the JUPAS website (www.jupas.edu.hk) and the Office of Admissions and Financial Aid website (www.oafa.cuhk.edu.hk).

所有入學資料以JUPAS網頁(www.jupas.edu.hk)及學生資助處網頁(www.oafa.cuhk.edu.hk)為準。

ADMISSIONS FIGURES 入學成績 (2016)

JS4601 SCIENCE 「理學」

Subject 科目	CHI 中文	ENG 英文	MATH 數學	LS 通識	M1/M2 數學科 單元 1 或 2	Best Elective 選修科目 1	2 nd Best Elective 選修科目 2	3 rd Best Elective 選修科目 3
Median 中位數	4	4	4	4	/	5*	5	/
Lower Quartile 下四分位數	5	4	4	4	/	5	4	/

JS4633 Earth System Science (Atmospheric Science / Geophysics) 地球系統科學 (大氣科學 / 地球物理)

Subject 科目	CHI 中文	ENG 英文	MATH 數學	LS 通識	M1/M2 數學科 單元 1 或 2	Best Elective 選修科目 1	2 nd Best Elective 選修科目 2	3 rd Best Elective 選修科目 3
Median 中位數	5*	4	5	5	/	5**	5	4
Lower Quartile 下四分位數	3	4	5	4	/	5*	5*	5

JS4682 Enrichment Mathematics 數學精研

Subject 科目	CHI 中文	ENG 英文	MATH 數學	LS 通識	M1/M2 數學科 單元 1 或 2	Best Elective 選修科目 1	2 nd Best Elective 選修科目 2	3 rd Best Elective 選修科目 3
Median 中位數	4	4	5*	3	5**	5**	5	5
Lower Quartile 下四分位數	4	5	5*	4	5*	5	5	/

JS4690 Enrichment Stream in Theoretical Physics 理論物理精研

Subject 科目	CHI 中文	ENG 英文	MATH 數學	LS 通識	M1/M2 數學科 單元 1 或 2	Best Elective 選修科目 1	2 nd Best Elective 選修科目 2	3 rd Best Elective 選修科目 3
Median 中位數	5	5	5**	4	5	5**	4	4
Lower Quartile 下四分位數	4	5	5*	4	5*	5*	4	4

JS4276 Quantitative Finance & Risk Management Science 計量金融學及風險管理科學

Subject 科目	CHI 中文	ENG 英文	MATH 數學	LS 通識	M1/M2 數學科 單元 1 或 2	Best Elective 選修科目 1	2 nd Best Elective 選修科目 2	3 rd Best Elective 選修科目 3
Median 中位數	4	5**	5**	5*	5	5*	5*	4
Lower Quartile 下四分位數	4	5	5**	5*	5*	5*	5*	5

JS4719 Risk Management Science 風險管理科學

Subject 科目	CHI 中文	ENG 英文	MATH 數學	LS 通識	M1/M2 數學科 單元 1 或 2	Best Elective 選修科目 1	2 nd Best Elective 選修科目 2	3 rd Best Elective 選修科目 3
Median 中位數	4	4	5*	4	5**	5	3	/
Lower Quartile 下四分位數	3	4	5*	5	5*	5*	4	/

For complete and update information, please refer to the Office of Admissions and Financial Aid website (www.oafa.cuhk.edu.hk).

所有入學資料以入學及學生資助處網頁(www.oafa.cuhk.edu.hk) 為準。

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