Master of Science Programme in Mechanical and Automation Engineering

机械与自动化工程理学硕士课程

(Part-time and Full-time 兼读制及全日制)
Hong Kong - Asia's World City

Study at The Chinese University of Hong Kong (CUHK) and you will soon discover that Hong Kong - widely celebrated as Asia’s world city - is truly exceptional in the way it combines intellectual challenge with material comfort.

English is widely spoken in this most cosmopolitan of cities. Along with invigorating opportunities for personal growth, Hong Kong offers unmatched insights into fast track global business, rapid urban and social development, and an energetic civil society.

Law and order in Hong Kong is the envy of many other cities in the world; the crime rate is low and public security is not only very good but also unobtrusive.

There is, on top of it all, a rich cultural life in Hong Kong. Often described as The City of Light, Hong Kong is the meeting place of East and West where the indigenous culture of Southern China comes into contact with the best the West has to offer in the world of the arts and of entertainment. And the result has been a creative fusion that has thrown new light on many traditional art forms. Hong Kong is particularly well served in terms of performance venues and arts festivals. It is on the cultural calendar of world class artists and performers.

There are nine universities in Hong Kong for a city of 7 million people. That in itself speaks volumes for the rich social and cultural life one can expect in Hong Kong’s thriving academic community. The universities all have links with each other and with academic institutions in China and abroad.

The Hong Kong Government issues work visas to overseas nationals to work in Hong Kong if they are properly sponsored by accredited employers.

General Information on The Chinese University of Hong Kong

Founded in 1963, The Chinese University of Hong Kong is a forward looking comprehensive research university with a global vision and a mission to combine tradition with modernity, and to bring together China and the West. CUHK teachers and students hail from all corners of the world. We have over 20,000 undergraduate and postgraduate students, of whom 3,000 come from regions outside Hong Kong. CUHK graduates are connected worldwide through an expansive alumni network. Over 117,000 alumni are connected through some 90 alumni associations both within and outside Hong Kong.

Our beautiful 137.3-hectare campus overlooking Tolo Harbour is the largest and greenest in Hong Kong. It houses a range of facilities essential for an all-round campus experience, such as world-class libraries, art museums, music halls, swimming pool, sports fields, tennis courts, squash courts, water sports centre and gymnasiums.

香港 - 亚洲的国际城市

在香港中文大学(中大)读书，你会很快发现香港，这个号称是亚洲的国际城市，既有丰盛的精神生活，也有富足的物质文明，两者各不相抵。

在这个大都会城市，很多人都说英语。香港除了能给你无限的个人发展空间外，这里的商贸信息发达；城市发展瞬息万变；整体社会充满活力。

香港的法制和治安也是很多其它城市所羡慕的，这里的罪案率非常低，市民享有高度的安全，很少受到干扰。

这里的文化生活也很丰富，香港常被誉为“光辉的城市”，是东西文化交流的亮点；中国浓墨文化与西方文化精粹融合，为艺术和娱乐带来新的动力；这股创作动力亦为传统艺术带来冲击，香港提供了理想的表演场地，不少世界级艺术家和表演艺术人都乐意前来演出。

有七百万人口的香港拥有九所大学，香港有这骄人的学术环境，丰富的社会文化和生活自不待言。香港的大学之间，以及与中国内地和海外的学术机构，都有紧密的联系。

非香港人若得到符合招聘外地专才条件的雇主所聘用，可获香港政府发出工作签证。

香港中文大学

香港中文大学成立于1963年，为研究型综合大学。以“结合传统与现代，融会中国与西方”为使命，励精图治，志在千里。中大师生来自世界各地，我们的本科和研究生共达万之谱，其中约三千人来自香港以外的不同国家和地区。我们也有广大的本地和海外校友组织，联系身在世界各地的中大毕业生。目前，中大有九十多个本地和海外校友组织，联系全球超过十万名校友。

中大校园面积一百三十七点三公顷，俯瞰吐露港，是全港最宽广、最绿意盎然的校园。为满足学习与生活所需，校内有齐备的设施，包括一流的图书馆，另设有文物馆、音乐厅、游泳池、运动场、网球场、壁球场，水上活动中心和健身室等。
Programme Information

M.Sc. Programme in Mechanical and Automation Engineering at CUHK is an inter-disciplinary study combining topics in computer engineering, electronics, systems, and information technology. The subject has a broad foundation and has been advancing rapidly in the past two decades. Automation is the use of technology to improve upon human operations, and to extend the analytical and physical capabilities of humans. It is ever-evolving. In ancient times it was the mechanization of some simple processes; today it is the integrated engineering of sensors, feedback control, manufacturing, CAD/CAM, robotics, computer interfaces, and artificial intelligence. These advanced technologies demand manipulation of a large amount of information in real-time, and only with today’s advanced computer technology that they can be facilitated. On the other hand, mechanical and automation engineering is, in a general sense, the application of computer technologies to engineering problems, including design/redesign, planning, simulation, implementation, and management. Together, mechanical and automation engineering work interactively and feed on each other’s strength, bringing forth new potential and application areas.

Programme Objectives

The Hong Kong Institution of Engineers (HKIE), the Institution of Electrical and Electronic Engineers (IEEE), and the American Society of Mechanical Engineers (ASME) have emphasized the importance for engineers to keep abreast of the latest developments in technology. This is essential to their careers and to meet the challenges introduced by advances in technology. This MSc programme is designed with the aim of providing practicing engineers with the knowledge and capability to use some of the latest technical advances in Mechanical and Automation Engineering, especially related to Energy Systems.

Specifically, the programme aims to:

- disseminate knowledge in the latest technologies and tools which are relevant to the careers of practicing mechanical and automation engineers
- introduce some of the latest design tools, software and practical techniques employed in mechanical and automation engineering
- provide courses to allow practicing engineers, possibly from other disciplines, to embark on a career in mechanical and automation engineering

理学硕士课程

由香港中文大学机械与自动化工程学系所设的理学硕士课程是一个集计算机工程、电子、系统、和讯息科技于一身的交叉学科。此学科有广范的知识基础，并于过去二十年间有着快速而足长的发展。追溯古代，自动化就是把一些简单的工序来机械化了，时至今日，自动化就是利用高科技来改善人类操作的不足，同时亦延展我们在体能、感知和思维上众多限制的一种技术。现在，自动化的领域包括了传感器、控制、制造、计算机设计、机械人、人机介面和人工智能等多面。这些领域都各自需要实时处理大量信号；正由于现代计算机科技的先进，令他们得以成功结合。另一方面，广义而言，机械与自动化工程就是应用计算机科技于各种工程问题上，包括设计、策划、模拟、实现和管理等等。故此，机械与自动化工程者是建基于对方长处，相互交接，从而带出更大的拓展潜力和新的实用领域。

课程目标

香港工程师学会(HKIE)、电气和电子工程师学会(IEEE)和美国机械工程师学会(ASME)均强调工程师必须能跟上科技的最新发展，要拓展事业，迎接先进科技所带来的挑战，这是绝不可少的。本硕士课程旨在为执业工程师提供知识和能力，以应用最新科技于机械与自动化工程学上，特别是跟能源系统有关的应用。

具体来说，本课程的目的是：

- 传授跟执业机械及自动化工程师职业有关的最新科技和工具之知识
- 介绍一些用于机械与自动化工程学的新设计工具、软件和实用技术
- 提供课程，让执业工程师（可能是其他学科的执业工程师）开拓机械与自动化工程学方面的事业
Study Mode

Department of Mechanical and Automation Engineering offers both part-time and full-time mode study on Master of Science Programme in Mechanical and Automation Engineering.

Part-Time Mode Study
- Normative Study Period*: 2 years
- Maximum Study Period: 4 years
- Tuition: Four installments

Full-Time Mode Study
- Normative Study Period*: 1 year
- Maximum Study Period: 3 years
- Tuition: Two installments

* A student who cannot complete all programme requirements within the normative study period shall write to the Graduate School for continuation of study beyond the normative study period, and will be requested to pay fees as required.

For more details, please visit our homepage at http://www3.mae.cuhk.edu.hk/maemsc

Entry Requirements

1. Qualifications for Admission
   The applicant shall have:
   - graduated from a recognized university and obtained a Bachelor's degree, normally with honours not lower than Second Class; or
   - graduated from an honours programme of a recognized university with a Bachelor's degree, normally achieving an average grade of not lower than "B" in undergraduate courses; or
   - completed a course of study in a tertiary educational institution and obtained professional or similar qualifications equivalent to an honours degree.

   In addition to the above general requirements of the Graduate School, applicants should normally possess a Bachelor's degree in engineering or science discipline from a recognized university or an approved institution. Applicants with degrees in other fields may be considered provided that they have some related working experience in mechanical engineering, mechatronics, automation, energy, and environment related industries.

2. Additional Entry Requirements
   All applicants should fulfill the General Qualifications for Admission and the English Language Proficiency Requirement prescribed by the Graduate School. For more details, please visit the Graduate School’s homepage at http://www.cuhk.edu.hk/gss.

   Non-local students who meet the entry requirements will also be accepted.

修改方式

机械与自动化工程系提供兼读制及全日制理学硕士学位课程。

兼职
- 修业期通常为两年*，最长不超过四年。
- 整个课程学费：分四期缴费。

全日制
- 修业期通常为一年*，最长不超过三年。
- 整个课程学费：分两期缴费。

*学生如未能于修业期内完成课程，需向研究院申请延期毕业及缴交修读课程之学费。

详情请浏览网址
http://www3.mae.cuhk.edu.hk/maemsc

入学要求

1. 入学资格
   申请人须：
   - 持有认可大学之学士学位，而其荣誉等级通常须为乙等或以上；或
   - 于认可大学之荣誉学位课程毕业，且本科课程考试平均成绩通常须达乙级或以上；或
   - 于专上学院完成一项课程，并考获相当于荣誉学士学位之专业资格。

   除以上研究院的一般入学资格外，申请人须持有认可大学之工程学或理科学士学位；或持有相关学科的学士学位或同等学历，及有关机械工程、电机、自动化、能源及环境方面的工作经验。

2. 其它入学要求
   申请人须符合研究院「英语能力规定」的条件方可考虑取录入学。详情请浏览网址
http://www.cuhk.edu.hk/gss

符合入学要求的非本地生之申请亦会被接受。
Curriculum Structure 课程结构

Each course contains 3 units. The following elective courses will be offered:
每选修科目占3个学分，可提供的选修科目如下:

<table>
<thead>
<tr>
<th>Course Code and Course Title 课程编号及名称</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MAEG 5710  Computer Aided Design and Manufacturing 计算机辅助设计及制造</td>
<td>ENGG 5402  Advanced Robotics 高等机器人学</td>
<td></td>
</tr>
<tr>
<td>MAEG 5715  Computer Interface and Simulation 计算机界面与仿真</td>
<td>ENGG 5403  Linear System Theory and Design 线性系统理论与设计</td>
<td></td>
</tr>
<tr>
<td>MAEG 5720  Computer Vision in Practice 计算机视觉的应用</td>
<td>ENGG 5404  Micromachining and Microelectromechanical Systems 微加工及微纳米机电系统</td>
<td></td>
</tr>
<tr>
<td>MAEG 5725  Control and Industrial Automation 控制与工业自动化</td>
<td>ENGG 5405  Theory of Engineering Design 工程设计理论</td>
<td></td>
</tr>
<tr>
<td>MAEG 5735  Applied Computational Intelligence 应用计算智能</td>
<td>MAEG 5030  Topics in Computer-Aided Geometric Design 计算机辅助几何设计专题</td>
<td></td>
</tr>
<tr>
<td>MAEG 5740  Product Design and Manufacturing 产品设计与制造</td>
<td>MAEG 5040  Computer Vision 计算机视觉</td>
<td></td>
</tr>
<tr>
<td>MAEG 5745  Measurement and Instrumentation 测量与仪器</td>
<td>MAEG 5060  Computational Intelligence 计算智能</td>
<td></td>
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<tr>
<td>MAEG 5750  Microelectromechanical Systems Technology and Applications 微机电系统技术及应用</td>
<td>MAEG 5070  Nonlinear Control Systems 非线性控制系统</td>
<td></td>
</tr>
<tr>
<td>MAEG 5755  Robotics 机器人学</td>
<td>MAEG 5080  Smart Materials and Structures 智能材料与结构</td>
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</tr>
<tr>
<td>MAEG 5760  Smart Materials and Structures 智能材料与结构</td>
<td>MAEG 5090  Topics in Robotics 机器人学专题</td>
<td></td>
</tr>
<tr>
<td>MAEG 5770  Industrial Fluid Mechanics and Heat Transfer 工业流体力学及热传学</td>
<td>MAEG 5110  Quantum Control 量子控制</td>
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</tr>
</tbody>
</table>

MAEG 5785  Precision Machine Design and Vibration Control 精密机械设计与振动控制

For updated course information, please refer to the department website: www.mae.cuhk.edu.hk
有关课程科目最新资料，请浏览学系网页。
Study Programme Requirements

1. Students are required to complete at least eight graduate courses (24 units or above) for graduation.
   Elective Courses from the following list:
   (i) MAEG 5710, 5715, 5720, 5725, 5735, 5740, 5745, 5750, 5755, 5760, 5770, 5775, 5780, 5785, 5910
   (ii) Students may select at most TWO other graduate courses from the research programme, including:
       ENGG 5402, 5403, 5404, 5405, MAEG 5030, 5040, 5060, 5070, 5080, 5090, 5110
   (iii) Students may select ONE graduate course of other self-financed programmes from Departments within
       the Faculty of Engineering, subject to approval of Departments concerned.

   Total: 24 units

2. To complete the programme, a student must achieve an overall GPA of 2.0.

Application Procedures

Application forms and package are obtainable at the Graduate School Office of The Chinese University of Hong Kong, or by sending an email to msc@mae.cuhk.edu.hk with the applicant's postal address. Applicants may also make their applications via the Internet https://www.gradsch.cuhk.edu.hk/onlineapp/programme_list.aspx?FAC=ERG.

Completed application forms and required supporting documents should be returned to the Department of Mechanical and Automation Engineering (MSc Programme)

Please send applications to:
Department of Mechanical and Automation Engineering (MSc Programme)
Room 213, William M. W. Mong Engineering Building
The Chinese University of Hong Kong
Shatin, N.T., Hong Kong

Selected candidates will be invited for interviews upon evaluation of their qualifications.

Study Programme Requirements

课程要求

1. 学生需于修业期限内完成至少8门选修科目(二十四学分或以上)。
   
   选修科目如下：
   (i) MAEG 5710, 5715, 5720, 5725, 5735, 5740, 5745, 5750, 5755, 5760, 5770, 5775, 5780, 5785, 5910
   (ii) 以下研究科目最多只可选修2门:
       ENGG 5402, 5403, 5404, 5405, MAEG 5030, 5040, 5060, 5070, 5080, 5090, 5110
   (iii) 学生可选修一个课程由香港中文大学其他工程学系提供：所选修科目须经有关学系核准。

   合共：二十四学分

2. 学生需考获累计平均绩分达到 2.0 或以上。

申请手续

申请人可亲临新界沙田香港中文大学研究院院务处；或以电邮方式传送申请人的地址到 msc@mae.cuhk.edu.hk以索取入学申请资料及表格。


填妥的申请表格及有关证明文件须寄抵机械与自动化工程学系(理学硕士学位课程)。

请将申请表格送到：机械与自动化工程学系(理学硕士学位课程)
新界沙田香港中文大学蒙民伟工程学大楼213室

合资格的申请人将获邀参加面试。
Contact Information

Ms. Flora AU-YEUNG
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The Chinese University of Hong Kong
Telephone No: (852) 3943 7026 / 3943 8337
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Homepage: http://www.mae.cuhk.edu.hk/maemsc