

HKU Summer Institute 2018

Undergraduate Programmes

Course Details													
Course Code	MATH1641												
Course Title	Mathematical Laboratory and Modeling												
Credit Bearing Programme	6 credits												
Course Description	This course introduces elementary mathematical modeling techniques. Also, a powerful and free software Scilab would be taught and used to study models in Physics, Chemistry, Biology, Ecology and Management.												
Course Outline	In this course, we shall <ol style="list-style-type: none"> 1. introduce fundamental programming techniques in SciLab, 2. demonstrate how mathematical models are formulated, and 3. how to interpret these models with the help of computer. Some basic techniques in calculus and linear algebra will be covered in due course.												
Learning Outcomes	<p>On successful completion of this course, students should be able to:</p> <table border="1"> <thead> <tr> <th colspan="2">Course Learning Outcomes (CLO)</th> </tr> </thead> <tbody> <tr> <td>CLO 1</td> <td>recognize the importance of numerical methods in mathematical modeling</td> </tr> <tr> <td>CLO 2</td> <td>demonstrate basic algebraic and arithmetic computations in the Scilab environment</td> </tr> <tr> <td>CLO 3</td> <td>write and interpret programs in Scilab programming language</td> </tr> <tr> <td>CLO 4</td> <td>solve simple numerical problems by using interactive Scilab commands</td> </tr> <tr> <td>CLO 5</td> <td>solve moderately complicated numerical problems by writing Scilab programs</td> </tr> </tbody> </table>	Course Learning Outcomes (CLO)		CLO 1	recognize the importance of numerical methods in mathematical modeling	CLO 2	demonstrate basic algebraic and arithmetic computations in the Scilab environment	CLO 3	write and interpret programs in Scilab programming language	CLO 4	solve simple numerical problems by using interactive Scilab commands	CLO 5	solve moderately complicated numerical problems by writing Scilab programs
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Study Load	36 contact hours + 120 learning hours												
Assessments	Assignments / in-class activities (20%), two midterm tests (30%) and one 2.5 hour written examination (50%) No supplementary examination will be offered.												
Language of Instruction	English												

Class Schedule	
Course Period	July 16, 2018 - August 3, 2018
Class Day & Time	Monday, Tuesday, Thursday & Friday 09:30 - 12:30 (One more lecture would be arranged on July 25 or August 1, 2018.)
Venue	The University of Hong Kong

Application	
Target Students	High School, Non HKU Undergraduates, Postgraduate Students
Pre-requisite	High score in NCEE (Gaokao) math or in AP Calculus, or Good grade in IB Math (DP) or in GCE A-level Further/Pure math, or Equivalent. Applicants should provide a list of current courses and past exam result sheets or transcripts.
Remarks	Students without Permanent HK Identity Cards may require visas to study in HKU. For student visa, please visit Here . HKU accommodation is also available, with priority given to students not residing in Hong Kong. For details, please visit Here .
Online Application	Please visit the webpage of "MATH1641 Mathematical Laboratory and Modeling" for Online Application .
Programme Fee	HK\$13,500
Discount	10% off for students from HKU exchange partners
Early Bird Offer	Apply before February 22, 2018: 5% Discount on programme fee; Guarantee of accommodation; Priority in social & cultural activities registration (the early bird offer is not valid in conjunction with other discounts)
Deadline for Application	April 10, 2018

Enquiries
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