

HKU Summer Institute 2017

High School Programmes

Course Details													
Course Code	MATH1641												
Course Title	Mathematical Laboratory and Modeling												
Credit Bearing Programme	6 credits Upon satisfactory completion of the course, students would be awarded 6 credits. These credits would be counted towards the students' studies in the Faculty of Science at HKU (by applying for an advanced standing of the course). Recognition by other HKU Faculties would be subject to the approval of individual Faculties.												
Course Description	This course introduces a powerful and free computer software Scilab for scientific research. The programming language will be taught via a number of mathematical models in Physics, Chemistry, Biology, Ecology, Statistics and Management. Some basic and important techniques in Calculus and Linear Algebra will also be covered.												
Course Outline	In this course, we shall 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.												
Learning Outcomes	On successful completion of this course, students should be able to: <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 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 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	
Date	July 17 - August 4, 2017 (Monday - Friday)
Time	09:30 - 12:30
Venue	The University of Hong Kong

Application	
Target Students	Secondary school students aged 16 or above <ul style="list-style-type: none"> ▪ Local ▪ Non-local
Pre-requisite	Pass the screening test. Remote screening test for non-local applicants would be held in March, 2017. The screening test for local applicants will be held on June 10, 2017 (Saturday) .
Remark	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\$4,260 and HK\$350 Application Fee
Deadline for Application	<ul style="list-style-type: none"> ▪ March 15, 2017 for Non-local Applicants; ▪ May 31, 2017 for Local Applicants

Enquiries
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