

# HKU Summer Institute 2018

## High School Programmes

Course Details													
<b>Course Code</b>	MATH1641												
<b>Course Title</b>	Mathematical Laboratory and Modeling												
<b>Credit Bearing Programme</b>	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.												
<b>Course Description</b>	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.												
<b>Course Outline</b>	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. Some basic techniques in calculus and linear algebra will be covered in due course.												
<b>Learning Outcomes</b>	On successful completion of this course, students should be able to:  <table border="1" data-bbox="451 1136 1422 1612"> <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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<b>Study Load</b>	36 contact hours + 120 learning hours												
<b>Assessments</b>	Assignments / in-class activities (20%), two midterm tests (30%) and one 2.5 hour written examination (50%) No supplementary examination will be offered.												
<b>Language of Instruction</b>	English												

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

Application	
<b>Pre-requisite</b>	Form 5 or above, or Equivalent. Applicants should provide a list of current courses and recent exam result sheets or transcripts.
<b>Remarks</b>	Students without Permanent HK Identity Cards may require visas to study in HKU. For student visa, please visit <a href="#">Here</a> .  HKU accommodation is also available, with priority given to students not residing in Hong Kong. For details, please visit <a href="#">Here</a> .
<b>Online Application</b>	Please visit the <b><u>webpage of "MATH1641 Mathematical Laboratory and Modeling" for Online Application.</u></b>
<b>Programme Fee</b>	HK\$4,400
<b>Early Bird Offer</b>	Apply before March 9, 2018: 5% Discount on course fee
<b>Deadline for Application</b>	<ul style="list-style-type: none"> <li>▪ Non-local Applicants: March 31, 2018</li> <li>▪ Local Applicants: May 31, 2018</li> </ul>

Enquiries	
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