

# HKU Summer Institute 2017

## High School Programmes

Course Details													
<b>Course Code</b>	MATH2101												
<b>Course Title</b>	Linear Algebra I												
<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>	Linear algebra has wide applications to diverse areas in natural science, engineering, management and social science. Instructed by university teachers, this course will provide students with the basic concept of linear structure through many concrete examples in the Euclidean spaces.												
<b>Course Outline</b>	It will cover basic theory of linear algebra in the following areas:  <ol style="list-style-type: none"> <li>1. Linear Equations and Matrices</li> <li>2. Vector Geometry</li> <li>3. Vector Spaces and Linear Transformations</li> </ol>												
<b>Learning Outcomes</b>	On successful completion of this course, students should be able to:  <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Course Learning Outcomes (CLO)</th> </tr> </thead> <tbody> <tr> <td style="width: 10%;">CLO 1</td> <td>handle matrix operations and use them in some practical problems</td> </tr> <tr> <td>CLO 2</td> <td>solve systems of linear equations by Gauss-Jordan elimination and also compute inverses of square matrices</td> </tr> <tr> <td>CLO 3</td> <td>understand the concept of vector spaces, basis, dimension, and linear transformations and compute the matrix representations of some linear transformations</td> </tr> <tr> <td>CLO 4</td> <td>solve some simple eigenvalue problems and apply the theory to some practical problems</td> </tr> <tr> <td>CLO 5</td> <td>solve some minimization problems by the least squares method</td> </tr> </tbody> </table>	Course Learning Outcomes (CLO)		CLO 1	handle matrix operations and use them in some practical problems	CLO 2	solve systems of linear equations by Gauss-Jordan elimination and also compute inverses of square matrices	CLO 3	understand the concept of vector spaces, basis, dimension, and linear transformations and compute the matrix representations of some linear transformations	CLO 4	solve some simple eigenvalue problems and apply the theory to some practical problems	CLO 5	solve some minimization problems by the least squares method
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<b>Study Load</b>	36 contact hours + 120 learning hours												
<b>Assessments</b>	Assignments (10%), two midterm tests (40%) and one 2.5 hour written examination (50%) No supplementary examination will be offered.												
<b>Language of Instruction</b>	English												

Class Schedule	
<b>Date</b>	July 3 - July 14, 2017 (Monday, Wednesday, Thursday & Friday)
<b>Time</b>	09:30 - 12:30 and 14:30 - 17:30
<b>Venue</b>	The University of Hong Kong

Application	
<b>Target Students</b>	Secondary school students aged 16 or above <ul style="list-style-type: none"> <li>▪ Local</li> <li>▪ Non-local</li> </ul>
<b>Pre-requisite</b>	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 <b>June 10, 2017 (Saturday)</b> .
<b>Remark</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 <a href="#">webpage of "MATH2101 Linear Algebra I"</a> for <b>Online Application</b> .
<b>Programme Fee</b>	HK\$4,260 and HK\$350 Application Fee
<b>Deadline for Application</b>	<ul style="list-style-type: none"> <li>▪ March 15, 2017 for Non-local Applicants;</li> <li>▪ May 31, 2017 for Local Applicants</li> </ul>

Enquiries
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