

HKU Summer Institute 2022

Undergraduate Programmes

| Programme Details | | | | | | | | | | | | | |
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| Programme Code | MATH1641 | | | | | | | | | | | | |
| Programme Title | Mathematical Laboratory and Modeling | | | | | | | | | | | | |
| Credit Bearing Programme | 6 credits | | | | | | | | | | | | |
| Programme Description | This programme 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. | | | | | | | | | | | | |
| Programme Outline | <p>In this programme, we shall</p> <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. <p>Some basic techniques in calculus and linear algebra will be covered.</p> | | | | | | | | | | | | |
| Learning Outcomes | <p>On successful completion of this programme, students should be able to:</p> <table border="1"> <thead> <tr> <th colspan="2">Programme Learning Outcomes (PLO)</th></tr> </thead> <tbody> <tr> <td>PLO 1</td><td>recognize the importance of numerical methods in mathematical modeling</td></tr> <tr> <td>PLO 2</td><td>demonstrate basic algebraic and arithmetic computations in the Scilab environment</td></tr> <tr> <td>PLO 3</td><td>write and interpret programs in Scilab programming language</td></tr> <tr> <td>PLO 4</td><td>solve simple numerical problems by using interactive Scilab commands</td></tr> <tr> <td>PLO 5</td><td>solve moderately complicated numerical problems by writing Scilab programs</td></tr> </tbody> </table> | Programme Learning Outcomes (PLO) | | PLO 1 | recognize the importance of numerical methods in mathematical modeling | PLO 2 | demonstrate basic algebraic and arithmetic computations in the Scilab environment | PLO 3 | write and interpret programs in Scilab programming language | PLO 4 | solve simple numerical problems by using interactive Scilab commands | PLO 5 | solve moderately complicated numerical problems by writing Scilab programs |
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| Study Load | 36 contact hours + 120 learning hours | | | | | | | | | | | | |
| Assessments | <p>Assignments / in-class activities (20%), two midterm tests (30%) and one written examination (50%)</p> <p>No supplementary test and examination will be offered.</p> | | | | | | | | | | | | |
| Language of Instruction | English | | | | | | | | | | | | |

| Class Schedule | |
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| Programme Period | July 11 - 29, 2022 |
| Class Day & Time | Monday, Tuesday, Thursday & Friday 09:30 - 12:30 (Note: Online lectures and tutorials + some pre-recording lectures. All the live lectures and tutorials will be recorded and uploaded on the Moodle after class. There will be online tests and exam.) |
| Venue | This programme will be conducted online . |

| Application | |
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| Target Students | Non HKU Postgraduate Students, Non HKU Undergraduates |
| 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 programmes and past exam result sheets or transcripts. |
| Remarks | Accommodation: Not Applicable |
| Online Application | Please visit the webpage of "MATH1641 Mathematical Laboratory and Modeling" for Online Application . |
| Programme Fee | HK\$11,600 |
| Early Bird Offer* | Apply on or before February 28, 2022 <ul style="list-style-type: none"> 5% discount on programme fee |
| Discount offered to HKUSI Alumni* | <ul style="list-style-type: none"> 20% discount of the programme fee |
| Partnership Discount* | <ul style="list-style-type: none"> 10% discount on programme fee (HKU Exchange Partners' students) |
| Discount offered to referral by HKUSI Alumni and HKU members* | <ul style="list-style-type: none"> 10% discount of the programme fee |
| Deadline for Application | June 10, 2022 |

*All discounts are not in conjunction with any other discounts.

| Enquiries |
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| <p>Tel: 2517 4590 / 2859 2250 Email: AMGS@maths.hku.hk Url: https://www.math.hku.hk/ Department of Mathematics, The University of Hong Kong</p> |

Last updated: January 28, 2022