Structural equation modeling (SEM) is a technique to test hypothesized models with observed and latent variables. It encompasses many techniques, such as linear regression, multivariate regression, and factor analysis as special cases. This course provides a practical introduction of structural equation modeling using the open source R statistical platform.

**Course Outline**
- Introduction to structural equation modeling with R
- Special cases of SEM: regression, path model, confirmatory factor analysis
- Model specification
- Model evaluation
- Using the lavaan package in R
- Testing measurement invariance with multiple group analysis
- Latent growth model
- Testing mediation effect with bootstrapping
- Testing moderation effect with latent variables
- Handling missing data
- Handling non-normal data robust statistics
- Handling binary and ordinal variables

**Who Should Attend**
This course is designed for individuals with knowledge in regression and would like to extend it to handle more complex research questions involving observed and latent variables.

**Prerequisites**
Participants are expected to have basic knowledge in regression analysis. Knowledge in R is not required. We will introduce R in the workshop.

**Course Fee**

<table>
<thead>
<tr>
<th></th>
<th>Three-day course</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Early Bird Fee</td>
</tr>
<tr>
<td>NUS students</td>
<td>$1514.05</td>
</tr>
<tr>
<td>Group Registration*</td>
<td>$1893.90</td>
</tr>
<tr>
<td>Course Bundle **</td>
<td></td>
</tr>
<tr>
<td>NUS academic/staff/alumni</td>
<td>$1893.90</td>
</tr>
<tr>
<td>Public</td>
<td>$2107.90</td>
</tr>
</tbody>
</table>

**Faculty Member**

Dr. Mike Cheung is an Associate Professor at the Department of Psychology, National University of Singapore (NUS). His research expertise is in the areas of meta-analysis, structural equation modeling (SEM), and multilevel modeling. He has published more than 50 papers in international journals and a book on integrating meta-analysis with SEM by Wiley. He received the Award for Excellent Researcher from the Faculty of Arts and Social Sciences, NUS at 2012. Dr. Cheung teaches undergraduate and graduate research methods and statistics at NUS. He also regularly gives workshops on statistics. His profile is available at [https://goo.gl/T8QDu2](https://goo.gl/T8QDu2).
*Applicable for three or more pax from the same organization enrolling in the same course.

**Amount indicates discounted fee per course for a participant enrolling in two or more courses.

Important reminders:

1. Fees indicated are inclusive of 7% GST.
2. Early bird discounts are available for registration made within the deadline. Check the schedule page for early bird deadline.
3. Registration is provisional until payment is made.
4. Seats are limited! Register early to save and to avoid disappointment!
5. Participant numbers will be strictly capped to ensure quality of delivery and content for participants.
6. Please note that the classes will only run if we meet a minimum enrolment of 10 students.
7. Completion of the course requires attendance of at least 75% of the total class hours. Only those who have completed the course will receive certificates of attendance.

Enquiries
Contact CFPR at:
Tel: (65) 6601 5387 / 6601 4987
Email: cfpr@nus.edu.sg
Website: www.fas.nus.edu.sg/cfpr
Facebook: https://www.facebook.com/nuscfpr1

For details on schedule, course fee & registration, visit CFPR website.