



Dept. of Civil Engineering | Master's Module | CPD Course

## Discrete Choice Modelling and Stated Choice Survey Design

Course Dates	3 - 7 March 2025
Venue	PG Seminar Room, NEB, Upper Campus, University of Cape Town, South Africa
CPD	5 CPD points, ECSA registration number: <i>UCTTSPDCM25</i>
Fees	SADC participants: R17,300 ( <a href="http://www.sadc.int/member-states/">http://www.sadc.int/member-states/</a> ) Non-SADC (international) participants: R19,700 or €1,000



# Introduction



Discrete choice modelling (DCM) is a statistical technique used to model decision-making processes where individuals face a set of distinct, mutually exclusive alternatives. Each individual chooses one option from the available alternatives based on factors like utility (perceived benefit), personal preferences, and contextual factors. Extensions of the modelling techniques can be used to look at choices where multiple products/options can be chosen at the same time. As such DCM helps understand how various factors (attributes of the choices or characteristics of the decision-makers) influence the likelihood of selecting a particular option and is popular across disciplines from public health to economics to engineering.

## Course Content

This one-week course, held in Cape Town, South Africa, will present a brief but systematic overview of choice modelling and survey design theory and practice. Taught by Professor Stephane Hess from the Choice Modelling Centre (CMC) at the University of Leeds and experts from the University of Cape Town (UCT) and the Norwegian University of Science and Technology, the course will consist of a mixture of lectures, supervised computer practicals in Apollo/R, and detailed case studies from within Africa and beyond.

Bringing together expertise from fields as diverse as transport planning, water resources, health, marketing and environmental economics, the lecturers in the course will cover all the steps required for successful choice modelling analyses, from inception via survey design and data collection to modelling and use of results.

## Topics

Discrete Choice Modelling (in Apollo/R):

*Statistics refresher; Multinomial Logit Model; Model estimation; Interpreting model results, appraisal & forecasting; Specification testing; Nested Logit and other GEV models; Mixed Logit, Latent Class models. Supervised exercises on Multinomial Logit, GEV estimation and model fitting; Mixed Logit; Latent Class models; Case Studies in Africa.*

Stated Choice Survey Design (in Ngene):

*Stated Choice Surveys, Fractional factorial design; Orthogonal design; Efficient design; Survey examples. Exercises on generating designs and stated choice surveys in Ngene. Case studies in Africa.*

# Application Domains of Choice Modelling

*Market research, Pricing strategies, Transport, Real Estate, Water Resources, Land markets, Health Economics, Environmental Evaluation, Government Spending, Electoral Studies, Human Geography, Psychology*



## Course Format

This 5-day course will be presented between 3 – 7 March 2025 in person at the Faculty of Engineering & the Built Environment, University of Cape Town, Cape Town, South Africa. All software, including the freeware software package Apollo, and instructions for installation will be shared prior to the course. Every lecture will be followed by a hands-on guided tutorial on participants own laptops.

## Who Should Attend

The course is aimed at planners, engineers and economists who want to obtain a solid background as well as hands-on skills in choice modelling and survey design. The course is of value to both academics and practitioners. While no specific background is required for this course, it is a postgraduate level credit-bearing course where a basic knowledge of statistics is assumed (but note that the necessary statistical basics are refreshed at the beginning of the course).

## Course Presenters



Prof Stephane Hess is the Director of the Choice Modelling Centre, and Professor of Choice Modelling at the University of Leeds and Honorary Professor at UCT. He is a global expert in advanced choice models, with theoretical and empirical contributions across different fields. He is also the *editor-in-chief* of the Journal of Choice Modelling and one of the developers of Apollo, a leading software package for choice modelling.



Prof Mark Zuidgeest is the SANRAL Chair of Transport Planning and Engineering in the Department of Civil Engineering at the University of Cape Town. He is an expert in transport studies in Africa, with a passion for behavioural modelling. He is also the *co-editor in chief* for the Journal of Transport Geography and the *deputy-editor* in Chief of African Transport Studies.



Ms. Teboho Mofokeng is a lecturer in the Department of Civil Engineering at UCT and teaches hydraulics to undergraduate students. Currently, she is a PhD candidate in Choice Modelling in the Future Water Institute at UCT.



Dr. Gloria Amaris is a civil engineer working on understanding the nexus between social sciences, water and environmental sciences, specifically through the use of advanced choice models. She currently is a Postdoctoral Researcher at the Norwegian University of Science and Technology (NTNU).

# Registration

## Registration and Cancellation

- [Register online](#)
- Registration covers attendance of all sessions of the course and course material.
- Registrations close one week before the start of the course. Confirmation of acceptance will be sent on receipt of a registration form.
- Cancellations must be received one week before the start of a course, or the full course fee will be charged.
- For more information on application and registration procedures, please visit our website: <https://ebe.uct.ac.za/cpd/registration-procedures>

## Certificates and CPD Points

A digital certificate of attendance will be awarded to CPD participants. Participants need to attend 80% of the lectures to qualify for an attendance certificate. For further information on digital certificates please visit [Digital Certificates at UCT](#)

According to guidelines set out by the Engineering Council of South Africa, attendance of this course will earn participants 5 points towards Category 1 (Developmental Activities). The ECSA validation number for this course is *UCTTSPDCM25*.

Please note: If you are interested in attending this course for credit purposes, you will need to register for the Master's Programme or as an occasional student. If you attend the course as a CPD participant, credit cannot be claimed in retrospect.

## Contact details

For more information or details on CPD courses, visit our website or contact us.

Web: <http://www.cpd.uct.ac.za>

E-mail: [ebe-cpd@uct.ac.za](mailto:ebe-cpd@uct.ac.za)

Physical address  
CPD Programme  
Room 6.10, 6th Floor  
New Engineering Building  
Upper Campus  
University of Cape Town  
South Africa

Postal address  
CPD Programme  
EBE Faculty  
University of Cape Town  
Private Bag X3  
Rondebosch 7701  
South Africa

Programme administrators  
Gillian Williams: +27 (0)21 650 7239  
Sandra Jemaar: +27 (0)21 650 5793  
Heidi Tait: +27 (0)21 650 4922