

What is Psychometrics?

Programme 2024

Coordinator

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Course Summary:

This course is designed to give an overview of psychometrics as an academic research field. The lectures cover general topics that are relevant to many subfields of psychometrics. They are intended to provide an overview of the field and highlight issues that are important to the role of psychometrics in science and society. Course credits are awarded for active participation.

Location

University of Amsterdam
Roeterseilandcampus (REC)
You can find the address and a map:
[here](#) for building G (Wednesday and Thursday), and
[here](#) for building J/K (Friday)

Literature

Each lecture is based on a key article, see the program below. You can prepare for the lecture using these key articles which can be found [here](#).

Programme

Wednesday 27 September
Room GS.09 (basement of G building)

10:00-13:00: Rebecca Kuiper, Utrecht University

Title: Beyond null-hypothesis testing: How to evaluate theory-based hypotheses using the information criterion GORIC(A)

Literature:

Kuiper, R. (2021). AIC-type Theory-Based Model Selection for Structural Equation Models. *Structural Equation Modeling*. <https://doi.org/10.1080/10705511.2020.1836967>

Optional (and you can then skip the mathematical parts):

Kuiper, R. M., Hoijtink, H. J. A., & Silvapulle, M. J. (2011). An Akaike-type information criterion for model selection under inequality constraints. *Biometrika*, *98*, 495-501.

13:00-14:00: Lunch (on your own)

14:00-17:00: Laura Bringmann , Groningen University

Title: The Philosophy of Psychometrics

Literature:

Bringmann, L. F., Elmer, T., & Eronen, M. I. (2022). Back to Basics: The Importance of Conceptual Clarification in Psychological Science. *Current Directions in Psychological Science*, *31*(4), 340–346. <https://doi.org/10.1177/09637214221096485>

Thursday 28 September
Room GS.05 (basement of G building)

10:00-13:00: Riet van Bork, University of Amsterdam

Title: Measurement in the psychological-network framework

Literature:

van Bork, R., Lunansky, G., & Borsboom, D. (2024). Measurement targets for network constructs in psychopathology. *Measurement*, 232, 114643. <https://doi.org/10.1016/j.measurement.2024.114643>

13:00-14:00: Lunch (on your own)

14:00-17:00 Dylan Molenaar, University of Amsterdam

Title: Measurement of response processes using item response times

Literature:

Van der Maas, H. L. J., Molenaar, D., Maris, G., Kievit, R. A., & Borsboom, D. (2011). Cognitive psychology meets psychometric theory: On the relation between process models for decision making and latent variable models for individual differences. *Psychological Review*, 118, 339-356.
<https://doi.org/10.1037/a0022749>

Friday 29 September
Room JKTB.24

10:00-13:00: Maarten Marsman, University of Amsterdam

Title: Bayesian Graphical Modeling

Literature:

Huth, K. B. S., de Ron, J., Goudriaan, A. E., Luigjes, J., Mohammadi, R., van Holst, R. J., Wagenmakers, E.-J., & Marsman, M. (2023). Bayesian Analysis of Cross-Sectional Networks: A Tutorial in R and JASP. *Advances in Methods and Practices in Psychological Science*, 6(4), 1-18.

13:00-14:00: Lunch (on your own)

14:00-17:00 Wilco Emons, Tilburg University

Title: Psychometrics for Large Scale Educational Assessment

Literature:

Bezirhan, U., Foy, P. & Von Davier, M. (2021). PIRLS 2021 Achievement Scaling Methodology: Item Response Theory, Population Models, and Linking Across Modes. *Methods and Procedures: PIRLS 2021 Technical Report – PIRLS 2021*.

Optional

Von Davier, M., Gonzalez, E., Mislevy, R. J. (2009). *What are plausible values and why are they useful?* IERI monograph series: issues and methodologies in large-scale assessments.