

# Track №1 Rasch modelling and all that lies behind it

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## Course Description:

The course “Rasch Modeling and Behind” by Profs. Christine Fox and Svetlana Beltyukova is designed to introduce participants to the principles of objective measurement and build the foundation for using two most common Rasch measurement models: the Rasch model for dichotomous data and the Rasch Rating Scale model. The former is widely used in testing pass/fail situations while the latter is applicable in the analysis of survey or assessment data comprised of ratings. Both models provide rich item and person diagnostics that allow test developers and users to evaluate the extent to which the instrument meaningfully measures intended content in addition to making objective comparisons of scores across different subgroups of interest and over time. Partial Credit Model and Rasch Regression will also be introduced.

## Learning Objectives:

- Verbalize the principles of fundamental measurement
- Choose and interpret basic Rasch diagnostics
- Construct and run a WINSTEPS control file for a Dichotomous Model
- Interpret outputs for a Dichotomous Model
- Run a WINSTEPS control file for a Rating Scale Model
- Interpret outputs for a Rating Scale Model
- Recognize the need for the Partial Credit Model
- Describe the difference between the Rating Scale and Partial Credit models
- Choose user-friendly scales and outputs for presenting findings
- Identify and make decisions about misfitting persons and items
- Identify and interpret Differential Item Functioning
- Identify and make decisions about redundant items
- Construct iterative control file for Rasch Regression
- Interpret outputs within larger validation framework

## Topics:

- Introductions and Overview of the Training Fundamental Measurement Validation Framework by Wolfe and Smith
- Conceptual and Mathematical Foundations of The Rasch Dichotomous Model
- Basic Rasch Diagnostics: Reliability, Fit, Dimensionality, Person-Item Map
- Creating a WINSTEPS Control File
- Running WINSTEPS File and Interpreting Output
- The Rating Scale Model
- Overview of the Rating Scale Control File (measure of empathy) Running WINSTEPS File and Interpreting Output
- Guided Practice Session: Constructing a measure (readiness to change measure)
- Advanced Diagnostics: Differential Item Functioning, Person Misfit, Redundancy Analysis
- User-Friendly Scales and Presentation of Results
- Introduction to Partial Credit
- Introduction to Rasch Regression
- Guided Practice Session: Rasch Regression