

## Fall Course 2026

### „Item Response Theory for Psychological Measurement with R“

#### Course Schedule

**Friday, October 23, 2026** | Room B005, VonRoll, Fabrikstrasse 8, 3012 Bern

09:15 – 17:00

PD Dr. phil. Rudolf Debelak,  
University of Zurich, Switzerland

This course is organized for PhD students in the Doctoral Program Brain and Behavioral Sciences. For attendance and a written assignment, you will be awarded 1 ECTS.

We also welcome other Ph.D. students and Postdocs outside the Doctoral Program, yet students enrolled in the Doctoral Program Brain and Behavioral Sciences have priority for registration. The **deadline for registration is October 8, 2026.**



**More information**

## Course Description

PD Dr. phil. Rudolf Debelak, University of Zurich, Switzerland

### Item Response Theory for Psychological Measurement with R (1 ECTS)

Item response theory (IRT) has become an important part of modern psychological and educational measurement, offering a sophisticated alternative to sum-score approaches for estimating latent traits and evaluating tests. This one-day workshop provides an accessible, hands-on introduction to its most influential members. We develop these models from the ground up, considering the item response function, the roles of person ability and item difficulty, and their core properties, and we discuss how their parameters are estimated and how much data such estimation requires. In the afternoon, participants fit IRT models to real data and learn to evaluate them through person–item maps, item characteristic curves, fit statistics, and tests for differential item functioning. In this part of the workshop, we give particular attention to several widely used models, including the two- and three-parameter models and models for polytomous (e.g., Likert-type) items, as well as applications such as computerized adaptive testing. No prior IRT experience is assumed, but basic familiarity with statistics and R is required.

*Note: Participants are expected to prepare and submit a written assignment after the course.*