

Summer School for **Mathematics Education** Monday 20 August – Thursday 31 August 2018

Day-to-day program

Aim of the course: Bringing participants up-to-date in design and research in the field of mathematics education. Topics include: curriculum development, revealing and building on talents of students, classroom experiments, context and tools for modelling, assessment, and the use of technology for teaching and learning mathematics.

Target audience: Master's students and PhD students in mathematics education and the education and learning sciences with a strong interest in mathematics education, early childhood and kindergarten teachers, primary and secondary school teachers, teacher educators, curriculum and assessment developers, and researchers. Proficiency in English is essential for a fruitful participation in the Summer School.

The following key-words/concepts will appear in several presentations/workshops

Assessment
Calculation methods
Contexts
Design research
Embodied cognition
Informal-formal
Inquiry based learning
Mathematical thinking
Mathematizing
Model of \rightarrow model for
Models
Models as bridges
RME
Own productions
Problem solving
Progressive schematization
Progressive symbolisation

Schedule (tentative)

Lessons are from Monday until Friday between 9-17:00.

During the weekend there are no classes, but activities organized by the central organization of the Summer School.

On Wednesday the 29th of August there will be a school visit to a primary or secondary school.

Every weekday in the morning there are workshops, lectures, group work, discussions or other activities with a duration between 45 minutes – 2 hours. Lunchtime is between 12-13 or 12:30- 13:30 (you have to bring your own lunch, except the first day).

In the afternoon there is another workshop, lecture etcetera until 15:00.

Every day between 15:00-17:00: Research and Educational design.

All classes are in the Buys Ballot building, Princetonplein 5, 3584CC Utrecht, except the opening, which will take place in the Koningsbergerbuilding (Budapestlaan 4 a-b, 3584 CD Utrecht)

Monday 20 August – opening day	
09:45-10:00	Intake in the Koningsbergerbuilding
10:00-10:15	Opening and Welcome by Toine Pieters, one of the directors of the Freudenthal Institute
10:15-10:30	Opening and Welcome by Dédé de Haan, director of the Summer school Mathematics Education Orientation, housekeeping, FAQ
10:30-13:00	Opening activity, photo-shoots & Welcome lunch
13:15-14:15	Realistic Mathematics Education - An introduction by Marja van den Heuvel-Panhuizen
14:15-17:00	Introduction Working groups for Research and Educational design, including Meaningful and activating Math activities

Daily schedule	
09:00-9:45	Workshop or lecture
09:45-10:00	Break (coffee/tea)
10:00-12:00	Workshop or lecture
12:00-13:00	Lunch
13:00-15:00	Workshop or lecture
15:00-15:15	Break (coffee/tea)
15:15-17:00	Research and Educational design in working groups

A temporary list of subjects/ topics of workshops/ lectures contains:
Meaningful geometry education
Open-ended modelling tasks in Dutch education
Classroom assessment techniques in primary mathematics education
Noticing and observing children
Mathematical thinking
Design research in Statistics education
Automated feedback in Statistics education

The digital mathematics environment
Talent development and problem solving by Rogier Bos
Inquiry Based Learning (IBL): (Re)design of textbook tasks
International comparisons of science and mathematics education: TIMSS and PISA
Early algebra in primary school
Algebra education
A natural way to algebra
Embodied cognition, verbal description, and conceptual metaphors in mathematics education
Dynamic data modelling in primary school
Language in mathematics education
Growing-based modelling in early science education
Probability in primary school