

Structural equation models, spring 2017

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Lecturer

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Fellow of the [Teachers' Academy](#)

Target group

This is an application-oriented basic course of Structural Equation Models (SEM) using [Mplus](#) and [R](#).

- It is primarily targeted to **Doctoral students of Social Sciences**, who have no prior knowledge of SEM.
- The course is also suitable for Master's students of Statistics (e.g., Social Statistics, Psychometrics).
- **The number of participants is limited to maximum of 20.**

Text book

We will closely follow a text book by [Barbara M. Byrne](#), and learn its most central topics through empirical examples.

- We begin by going (fast) through the chapters 1 and 2 (first week).
- **The primary focus will then be on the chapters 3, 4, 6, 7 and 9** (basically, one week for each).
- The chapters 5 and 8 will serve for optional assignments (see below).
- (The chapters 10-12 will be excluded.)

Please get the book **ASAP** (*you may well consider the e-book!*). It may be quite difficult to follow the course without it.

Schedule

The course is scheduled this time on period III, starting in the mid January and ending in early March.

It is essential to participate on the lectures and the computer classes. Both will begin immediately.

Schedule: course begins on Monday 16 January and lasts for 7 weeks:

- Computer Class on **Mondays 10-12, SSKH IT-sal** (Snellmaninkatu 12, first floor) - **except on Mon 23 January! (CANCELLED)**
- Lecture on **Thursdays 16-18, Unioninkatu 35, room 114** (first floor)

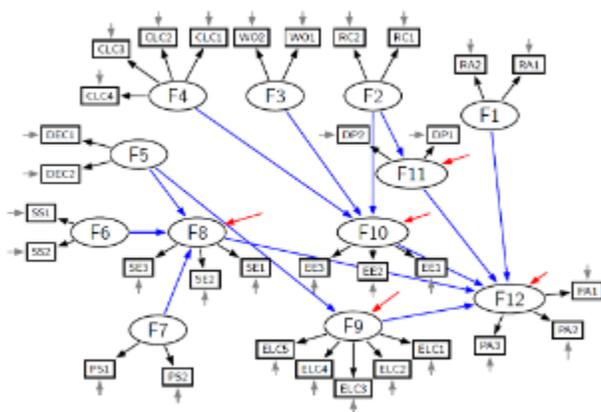
Exam

There is no exam, as this is learning by doing and practicing. Credits will be earned as follows (more details during the course):

- 6 cu: active participation, weekly assignment reports (based on chapters 3,4,6,7,9)
- 8 cu: all of the above plus an additional report (based on chapter 5 or chapter 8 or perhaps own data)

Grading will be based on the active participation as well as the quantity and quality of the assignment reports.

[Moodle](#) will be used for sharing the materials, your reports etc. with all other students of the course.



Pre-course material

1. [Introduction to SEM](#) by KV
 - Keynote talk given in the Annual Seminar of FiDPEL: The Finnish Doctoral Programme in Education and Learning (2013)
 - Suitable stuff for **everyone** interested in this course
2. [Multivariate linear relations](#) by prof. **Theodore W. Anderson** (1918-2016) (Stanford University, USA)
 - Keynote talk given in the [2nd Tampere Conference of Statistics](#) held in Tampere, Finland (1987)
 - Prof. Anderson is introduced by prof. **George P.H. Styan** (McGill University, Canada)
 - Suitable stuff at least for students of Statistics
 - See also other videos on the same YouTube channel (University of Tampere)
 - See also [a matrix book dedicated to TWA](#)
 - See also [a rare photograph of four academic generations](#)
3. [Matrices of SEM](#)
 - Learn the basics of Greek letters needed with SEM
 - Suitable stuff at least for students of Statistics
4. [Moodle forum example](#)
 - Learn the basics of Greek mythology related to multivariate statistical analysis
 - Suitable stuff at least for students of Statistics

Praise for the course (16 Oct 2014)

Dear Kimmo,
during my ERASMUS semester in Helsinki I attended the first version of your SEM course which, as I just read on your website, you still offer. After attending it and after coming back to Munich and after finishing my Master thesis I started to work at the Faculty of Social Sciences here and I could even use the expertise gained from your course directly in a paper which got published a while ago (it is in German, though). Hence, I need to tell you, that you still are my personal most-influential memory of my Finland semester. Thanks for that :)

[...]

Best regards from Munich,
Mario

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Mario Haim, M.A.

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Register for the course