

**Basic and Advanced Programming in SAS with Statistics**  
**Signature: 223111-1234**

**Trainer:** Dr. Karol Przanowski  
Event History Analysis and Multilevel  
<http://www.sgh.waw.pl/zaklady/zahziaw/>

**Schedule in winter 2018/2019**

Courses are provided on Tuesdays, 17:10 – 18:50, place C-4d

Course nr	Date	Topic
1	02-10-2018	Introduction and first 'Hallo World'
2	09-10-2018	Data processing in SAS 4GL
3	16-10-2018	Important procedures for data processing
4	23-10-2018	Valuable processing techniques
5	30-10-2018	Tabular reports and basic of ODS
6	06-11-2018	Processing of text data
7	13-11-2018	Data visualization
8	20-11-2018	Macro-programming
9	27-11-2018	Automatizing of data processing and reporting
10	04-12-2018	Advance programming elements
11	11-12-2018	Structure analyse
12	18-12-2018	Statistical estimation
13	08-01-2019	Variable dependency
14	15-01-2019	Automatizing of statistical analyses
15	22-01-2019	Advance usage of SAS/IML
	15-01-2019	Project deadline

**Literature:**

1. R. Cody, Cody's Collection of Popular SAS Programming Tasks and How to Tackle Them, SAS Institute 2012
2. R. Cody, Learning SAS by Example: A Programmer's Guide, SAS Institute 2007
3. J. Bailer, Statistical Programming in SAS, SAS Institute 2010
4. R. Wicklin, Statistical Programming with SAS/IML Software, SAS Institute 2010
5. R. Virgile, SAS Macro Language Magic: Discovering Advanced Techniques, SAS Institute 2013
6. K. Lafler, PROC SQL: Beyond the Basics Using SAS, Second Edition, SAS Institute 2013
7. M. Raithel, How to Become a Top SAS Programmer, SAS Institute 2013
8. SAS Institute Inc., SAS/STAT SAS Online Doc, SAS Institute Inc.  
<http://support.sas.com/onlinedoc/913/docMainpage.jsp>

All documents and material are available on USB.

***How to get a pass:***

*Every student is expected to pass the following two steps:*

*- project - 20 points, project should be presented, some reports are needed to print, print version should be signed on, after presentation all elements should be delivered to trainer on USB*

*- exam (on computer) in the time of the project presentation – 20 points.*

*Minimal requirements to get a pass - 54% - 21 points.*