# Module M.WIWI-WB.0005: Advanced Topics in Stata

## Learning outcome, core skills:
At the end of the course students will:
- be experts at using basic data manipulation commands and creating well formatted output,
- be proficient with basic programming skills (using macros, looping and branching),
- have a good understanding of the particularities of survey data and know how to analyze it,
- be able to debug any Stata code,
- know how to extend Stata by writing own subroutines, such as estimation or postestimation commands,
- be experienced with fundamentals of Mata programming.

## Workload:
- Attendance time: 28 h
- Self-study time: 152 h

## Course: Advanced Topics in Stata (Computer lab session)

**Contents:**
We will start by refreshing participant’s knowledge regarding the basic functions of Stata, including the use of macros, loops and if-then statements (branching). As this section of the course will have to be very brief, participants are encouraged to review basic Stata commands before the start of the course and use this first part of the course as an opportunity to ask questions. The second part of the course will then introduce students to the basics of programming, in particular by making use of Stata’s `syntax` command. In a range of exercises students will have the opportunity to write their own commands and thereby gain a deeper understanding of Stata. Finally, students will be introduced to the fundamentals of Mata (an in-built Matrix language) and learn how to implement Mata routines in Stata programs.

## Examination: Practical examination (max. 10 pages)

### Examination requirements:
- Ability to make use of macros, loops and if-then statements,
- ability to apply knowledge attained in class to a number of short programming exercises,
- demonstrate understanding of fundamentals of Mata programming.

### Admission requirements:
- none

### Recommended previous knowledge:
- B.WIWI-WB.0003 Introduction to Stata
- or equivalent level of knowledge in Stata

### Language:
- English

### Person responsible for module:
- Prof. Dr. Sebastian Vollmer

### Course frequency:
- irregular

### Duration:
- 1 semester[s]

### Number of repeat examinations permitted:
- Recommended semester:
<table>
<thead>
<tr>
<th>twice</th>
<th>1 - 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum number of students:</strong></td>
<td>25</td>
</tr>
</tbody>
</table>