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| Name: |  |
| Utrecht University student number: |  |
| Master’s programme: |  |

**General instructions**

This Master’s programme specifically requires academic understanding and knowledge of:
**1. Statistics**

**2. Programming**

In terms of credits, this translates to (an equivalent of) at least 7.5 EC worth of statistics courses and (an equivalent of) at least 7.5 EC worth of programming courses, specifically in Python and R.

A more detailed description of the specific entry requirements per subject can be found below.

With this format, we would like to ask you to include **detailed course descriptions** of the course(s) you have followed to prove you meet the entry requirements regarding statistics and programming. Course descriptions include methods, learning objectives, tools/languages used, etc.
**Please provide detailed descriptions (e.g. from a course syllabus) to show that you meet the requirements. Failure to provide detailed descriptions will be seen as having an incomplete application and can lead to automatic rejection.**

Please note that **we do not accept online (non-credited) courses** as a substitute for university-credited courses.

**1. Statistics**

In particular, you need to have knowledge and skills in descriptive and inferential statistics, know concepts in statistics such as **analysis of variance**, **correlation** and **regression analysis**, and know how to apply these concepts. You also need to be able to:

* Explain concepts from inferential statistics, such as probability, inference and modeling; and apply them in practice.
* Apply and explain the choice for techniques to investigate data problems.
* Apply and explain the concepts of linearity and non-linearity.
* Interpret statistical software output and report software output.
* Explain and conceptualize statistical inference and its relation to statistical theory.
* Perform the different steps in solving basic regression analysis problems and report on these steps.

*EC =* [*European Credits*](https://ec.europa.eu/education/resources-and-tools/european-credit-transfer-and-accumulation-system-ects_en)*. If your educational system does not use EC, please convert your course credits to EC (1 EC is equivalent to 28 hours of study).*

*Please include detailed course descriptions that prove the above. Text fields will expand as you type.*

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| Course title: | Credits (in **EC**): | Course description: *(including methods, learning objectives, tools/languages used, etc.)* |
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**2. Programming**

In particular, you need to have knowledge of:

* Data-analysis and statistical modelling applied in R **and** Python.
* Data selection (e.g., from structured data), using SQL, and from unstructured data (e.g., using regular expressions).
* Data manipulation (e.g, the logic of manipulation), algorithms for data manipulation.

You can also include courses that used other programming languages (e.g. C, C++, C#, Java), but note that knowledge of R and Python is necessary to be accepted to the programme.

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