


MANNHEIM DATA SCIENCE CERTIFICATE: SAMPLING

This certificate will prepare you to take positions such as (Survey) Sampling Statistician, Research Scientist, or Decision Scientist. By completing this certificate, you will be ready to work in public and private organizations that issue or conduct large scale data collections in areas such as health, labor market, transport, military, and education. With your skills you provide the technical backbone to these data collection efforts.

KEY FACTS

 **STRUCTURE**
Asynchronous learning through video lectures combined with weekly 1-hour live online meetings


 **CERTIFICATE DURATION**
2 courses
4-8 weeks per course

 **TIME COMMITMENT**
Part-Time (12 hours/week)

 **LANGUAGE**
English

 **APPLICATION REQUIREMENTS**

- An academic degree
- Fluency in English

 **CREDITS**
Certificate of Completion

 **PARTICIPANTS**
Limited to 20

CERTIFICATE DESCRIPTION

This certificate consists of two applied statistics methods courses that are concerned almost exclusively with the sampling design for survey data collection. Both courses concentrate on problems of applying sampling methods to human populations, since sampling human populations poses a number of particular problems not found in sampling of other types of units. You will first learn about sampling methods and techniques and then delve into different applications of these methods.

KEY BENEFITS

- Excellence: Theoretically based and practice-oriented learning from a faculty from world's top ranked universities, statistical agencies and businesses
- Flexibility: Join courses online from anywhere in the world, at your own pace.
- Online learning: Asynchronous learning experience (pre-recorded lectures, readings) and synchronous learning experience (virtual classroom, weekly live discussions led by the instructor)
- Participant profile: Participants benefit from a diverse group of international peers coming from various industries and with different occupational profile




BY COMPLETION OF THE CERTIFICATE YOU WILL...

- understand the basic ideas, concepts, and principles of probability sampling from an applied perspective
- be able to identify and appropriately apply sampling techniques to survey design problems
- be able to compute the sample size for a variety of sample designs
- understand and be able to assess the impact of the sample design on survey estimates
- be able to estimate the precision of the survey statistics using different estimation techniques
- be able to assess the quality of data from different sources based on a data quality framework
- be able to design and implement large-scale statewide or national samples using multi-stage sampling with different sampling techniques
- understand the principles of telephone sampling and be able to design and select telephone samples
- understand issues related with multiple frame designs and use them in settings such as telephone sampling
- perform sample size calculations based on precision requirements, such as coefficient of variations and margin or error, and power requirements

COURSES



SAMPLE SCHEDULE

	Sampling I	Sampling II
 Mandatory weekly online meeting	Thursdays 1:00 PM ET/ 7:00 PM CET, October 1 – December 3, 2021	Thursdays, 1:00 PM EDT/ 7:00 PM CEST, September 29 - November 17, 2022
Final Exam	December 17, 2021	December 1, 2022

CASE STUDIES & EXAMS

There will be a mixture of weekly online quizzes and assignments. Additionally, the courses each conclude with a final exam.

To see all courses in the upcoming term click [here](#).