Assessment Methods for Measuring Statistical and Data Literacy

Evaluation tools in the Master of Statistics and Data Science @ KU Leuven

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Master of Statistics and Data Science @ KU Leuven

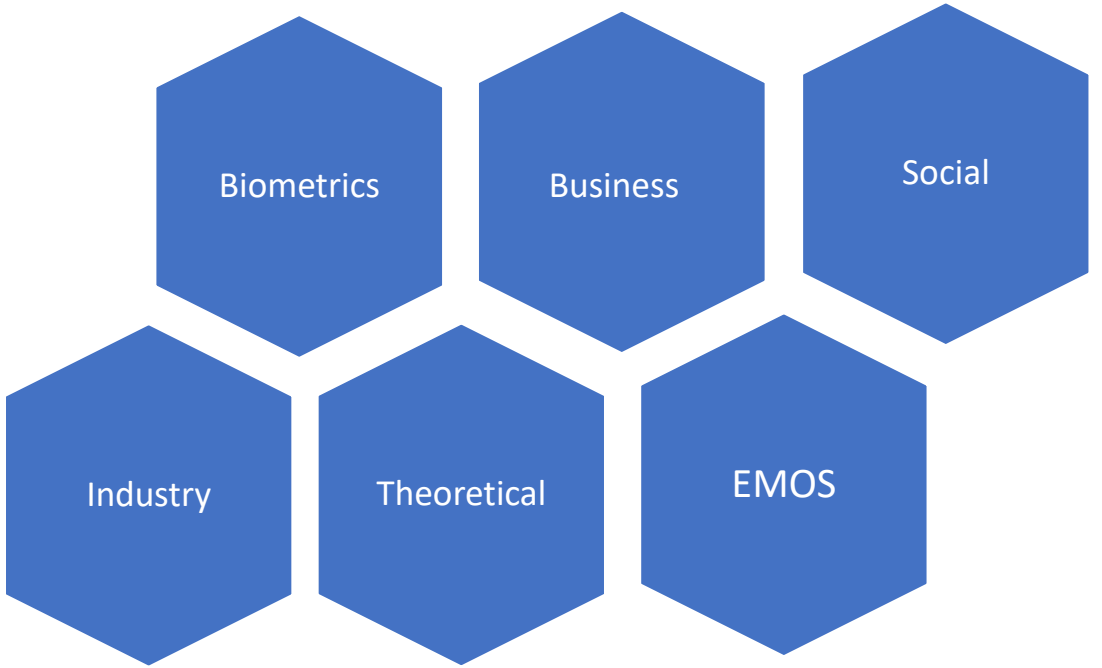
TOWARDS A MORE STATISTICALLY LITERATE FUTURE

- Two different formats

On-campus

Online

- Six different tracks



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Different assessment methods

depend on the

- learning outcomes of your master program
- learning goals of your course

What do students need to know at the end of your course?

Case 1: Statistical software (R & SAS)

Learning goals
Data Handling
Work with SAS & R help
Work with SAS procedures & R functions
Write efficient SAS program & R script

Assessment (R part)
Hands-on open book exam in pc class.
Task is given; R script has to be written & uploaded.
Online students: use of Proctoring software (Proctorio)

Assessment (SAS part)
Collaboration with SAS institute
Students take SAS Base Programmer Certification exam
Online students: Proctored SAS Base programmer certification exam

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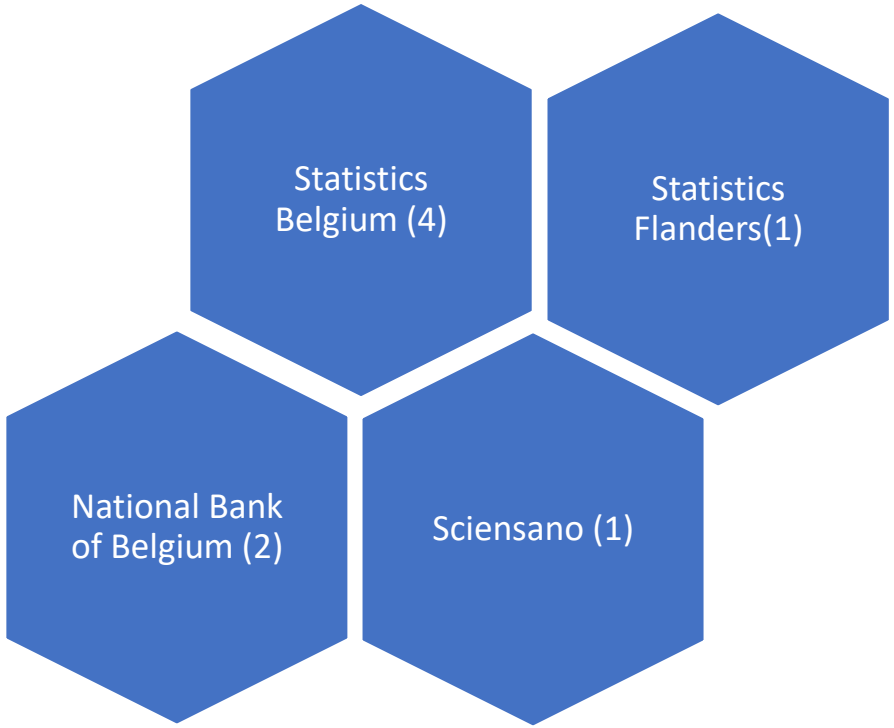
Case 2: Statistical consulting

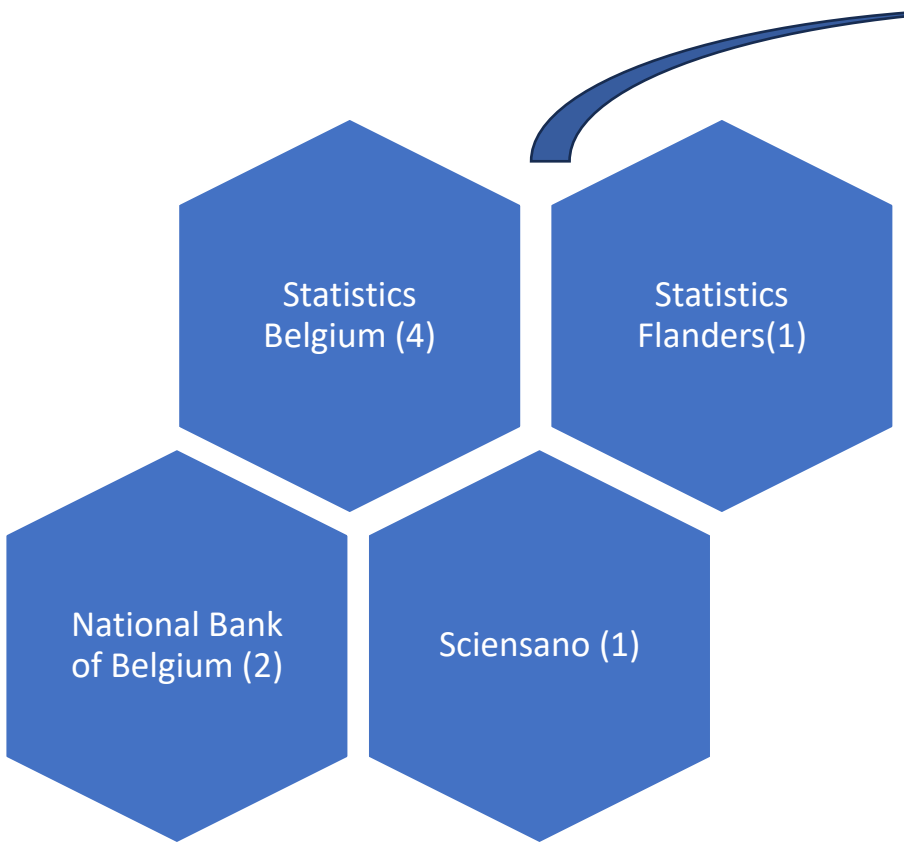
Learning goals	Assessment method: continuous evaluation outside of exam period
Communication about statistical results (written & oral)	Participating in team at the datathon; Analyzing data & give a final pitch for a jury
Critical thinking	External companies are presenting real-life case studies; Analyzing data set in team, write final report and give oral presentation for the company
Out-of-the-box reasoning	
Be aware of the ethical aspects of statistics	Students have to take a scientific integrity test

Case 3 : Official statistics

Learning Goals
Know the use of official data
Know the methodology of register based statistics
Know about the quality assessment of official statistics
Know about regulation of data collection
Know about organisation and production of official statistics



Case 3 : Official statistics



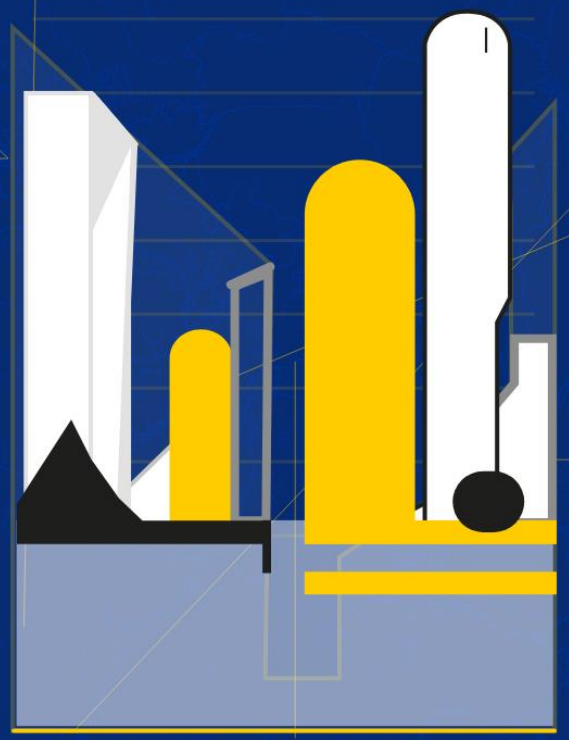
Assessment
8 research questions are formulated by experts of the field
Students work in duo
Duo writes report on 2 research questions
Individual oral presentation about the report + oral questions on one “other session”
Colleagues from collaborating partners are correcting report, take oral exam, give mark.

Case 4: Master thesis

Learning goal
To search & evaluate scientific literature
Analyze data independently
Report & present statistical results
Use appropriate software

Assessment: continuous assessment with final exam
December 1st: literature proposal
Mid-March: intermediate thesis presentation
June 1: submission master thesis manuscript
End of June: presentation + oral defense

Check	Tool
Plagiarism	Turnitin
Use of GenAI	Code of conduct ‘Use of Generative AI’



TOWARDS A MORE STATISTICALLY LITERATE FUTURE

1. Different assessment methods depend on the learning outcome of the curriculum and on the learning goals of the course. What is your opinion on that?

2. How can technology and digital tools be integrated into assessment practices for statistical literacy to enhance efficiency and effectiveness?

3. How to evaluate individual abilities in case of team work? Do you evaluate the individual or the group?

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