



**GHENT  
UNIVERSITY**

Analysis of High Dimensional Data  
2020-2021

Lieven Clement

# LECTURES

- theory (6 X 2.5 hours)
- PC Labs (6 X 2.5 hours)
- Paper reading sessions (3 X 2.5 hours)
- Milan Malfait is your teaching assistant

# EVALUATION METHODS

- 5 Credits course:
  - **End-of-term evaluation**
    - Exam in January: 10/20
    - Written exam (Open questions, open book):
  - **Continuous assessment**
    - 1 Project assignment, group work: 5/20
      - Written report, peer-assessment
    - 2 Homework assignments, individual: 5/20

# INITIAL COMPETENCES

A basic course in **probability theory** and **statistics** (linear models, i.e, regression analysis and analysis of variance), and a good basic knowledge of **matrix algebra**

# FINAL COMPETENCES: 3 CREDITS

1. The student has **knowledge** of methods for analysing and exploring high-dimensional data set
2. The student can see and quantify structures in large high dimensional/multivariate datasets, **using the software R**
3. The student can **value and interpret the statistical data analyses** of high-dimensional data correctly
4. The student can **correctly report** the results of the data analyses according to scientific standards

# FINAL COMPETENCES: 5 CREDITS

1. The student has **knowledge of methods** for analysing and exploring high-dimensional data sets
2. The student can see and quantify structures in large high dimensional/multivariate datasets, **using the software R**.
3. The student can **value and interpret the statistical data analyses** of high-dimensional data correctly.
4. The student can **correctly report** the results of the data analyses according to scientific standards
5. The student can **comprehensively read scientific papers** related to the course content.
6. The student can **take responsibility and initiative in a group effort**

# FINAL COMPETENCES VS. EVALUATION: 3CRT

Final Competence	Project assignment	End-of-term exam
knowledge of methods for analysing and exploring high-dimensional data set	X	XXX
see and quantify structures in large high dimensional/multivariate datasets, using the software R	XXX	X
value and interpret the statistical data analyses of high-dimensional data correctly	XXX	XXX
correctly report the results of the data analyses according to scientific standards	XXX	X

# FINAL COMPETENCES VS. EVALUATION: 5CRT

Final Competence	HW1	HW2	Project assignment	End-of-term exam
knowledge of methods for analysing and exploring high-dimensional data set	XX	XX	X	XXX
see and quantify structures in large high dimensional/multivariate datasets, using the software R	XX	XX	XXX	X
value and interpret the statistical data analyses of high-dimensional data correctly	X	X	XXX	XXX
correctly report the results of the data analyses according to scientific standards			XXX	X
comprehensively read scientific papers related to the course content	X	X		XXX
take responsibility and initiative in a group effort			XXX	