

Master of Statistics and Data Science Collaboration with e.g. Sciensano



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European Master of Official Statistics (EMOS) Structure (120 ECTS)

Year 1:
60
ECTS

Core & compulsory courses (30 ECTS)

Semi-electives (30 ECTS)

Year 2:
60
ECTS

Electives (18 ECTS)

Internship (15 ECTS) + Master thesis (24 ECTS)

Ethics course (3 ECTS)

Official Statistics (4 ECTS)

**Collaboration with
external partners**

Internship (15 ECTS)

Master thesis (24 ECTS)

Official statistics (4 ECTS) : collaboration

- National Bank of Belgium (2)
- Statistics Belgium (4)
- Statistics Flanders (1)
- Sciensano (started in 2020) (1)
- Centraal Bureau Statistiek (The Netherlands: stopped in 2022)

Title session	Name lecturer	Institute
Session 1: Introduction	<i>Wendy Schelfaut</i>	<i>Statistics Belgium</i>
Session 2 : Communication on Statistics and the position of official statistics in society	<i>Jo Noppe & Ann Carton</i>	Statistics Flanders
Session 3: Introduction to NBB	<i>Béatrice Thiry</i>	NBB (National Bank of Belgium)
Session 4: Macro-economic statistics (national accounts , balance of payments, monetary and finance)	Lotte Van Mechelen	NBB (National Bank of Belgium)
Session 5: Census	<i>Pieter Dewitte</i>	Statistics Belgium
Session 6: Registers, demography	<i>Cloë Ost & Elias Neiryck</i>	Statistics Belgium
Session 7: Survey based social statistics	<i>Astrid Depickere & Annelies De Schrijver</i>	Statistics Belgium
Session 8: Health Information Systems	<i>Karin De Ridder & Petronille Bogaerts</i>	<i>Sciensano</i>

Evaluation of Official Statistics

- Every session formulates one Research Question → 8 research questions
- Students work in groups of two
- They write reports on two Research questions
- Every student has individual oral exam about one report and about one “other session”
- Colleagues from our collaborating partners correct the report, and take the oral exam.

	# Registered students	# Passed students
17-18	29	18
18-19	24	9
19-20	24	20
20-21	43	28
21-22	94	76
22-23	52	41
23-24	21	17 (Jan 2024)

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EMOS internship & Master thesis (first students started in 2017-2018)

	StatBel	NBB	Stat Flanders	Sciensano	Total
17-18	1	1			2
18-19	2	2			4
19-20					
20-21		1	1		2
21-22	1				1
22-23	2		2	1	5
23-24	1		2		3

Internship & Master thesis: the topics



- April (1st year)
contact our collaborating partners and ask for topics
- May (1st year):
 - students are informed and submit their preferences
 - Based on these preferences and student performances: topics are matched to students

Internship & Master thesis: the guidance

- Daily supervisor/mentor from the institute (as co-promotor)
- Official promotor from KU Leuven

Internship & Master thesis: timing

- Since large number of ECTS (15 ECTS + 24 ECTS):
- Student works for 2 days/week
- 1st semester: September 25 – December 25
- 2nd semester: February 12 – May 12

Internship & master thesis: contract

KU Leuven has default contracts for collaboration. Two contracts has to be set up

- 1. Contract for research work
- 2. Contract for the Internship

Contracts has to be signed by student, program director, responsible person at collaboration institute.

Internship (15 ECTS) : evaluation

- Working process
- Report is written by student about
 - An overview of the work done
 - A self-evaluation of the student
 - Where the objectives achieved?
 - What skills were learned during the internship?
 - Did the EMOS courses properly prepare the student for the scientific content of the internship?
 - What challenges did the student experienced during the internship?
 - What is the overall evaluation ?
- 50 % of the final score is given by the mentor at the organization. This score reflects the working process.
- 50 % of the final score is given by the promotor. This score reflects the final report.

Master thesis (24 ECTS): evaluation

Deadline 1: December 1 (Research proposal – Literature overview, 5 pages)

01

Deadline 2 : Mid-March: Intermediate thesis presentation (promotor, co-promotor and extra jury member)

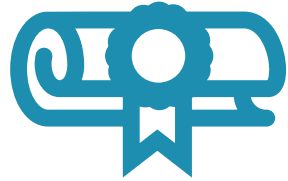
02

Deadline 3: June 1st: submission of master thesis manuscript

03

Deadline 4 : end of June: Oral thesis defense (promotor, co-promotor and 2 extra jury members)

Remarks



Student of the 2nd year can only start with Master thesis & internship when the student

- > has passed successfully “Official statistics”
- > has obtained at least 54 ECTS in 1st year



Limited number of internship positions:

(from 2024-2025 on) : Students have to write a motivation letter before they can start with EMOS track

Recent collaboration with Sciensano

- Student: Dishani Sen (2021-2022)
- Topic master thesis: Using Digital Trace Data to Generate Representative Estimates of Disease Prevalence [COVID-19 Infections] in Belgian Municipalities
- Co-promotor: Sofie De Broe (Sciensano), Roberto Cerina (Maastricht University) and KU Leuven promotor
 - ✓ participated in EMOS master thesis competition (one of the 6 best Master thesis)
 - ✓ she gave a poster presentation at NTTTS in March 2023 (New Techniques & Technologies in Statistics)
 - ✓ winner of the 2023 ISPA Scription Prize (Internet Service Providers Association)
 - ✓ participated at the EMOS workshop in October 2023 (together with Sofie De Broe and Roberto Cerina)

Recent collaboration with Sciensano Internship & Master thesis

