WAGENINGEN
UNIVERSITY & RESEARCH

Geo-information Science

Wageningen University

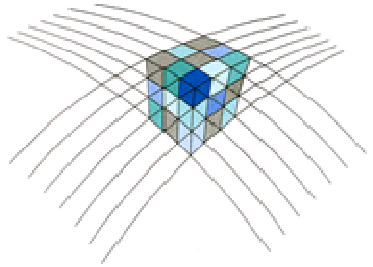
CROHO 60108

Dr. Gerrit Epema
Programme Director

NCG

NCG MSc GI Onderwijsbijeenkomst
17 april 2018, Fugro Leidschendam

Nederlands Centrum voor Geodesie en Geo-informatica (NCG)

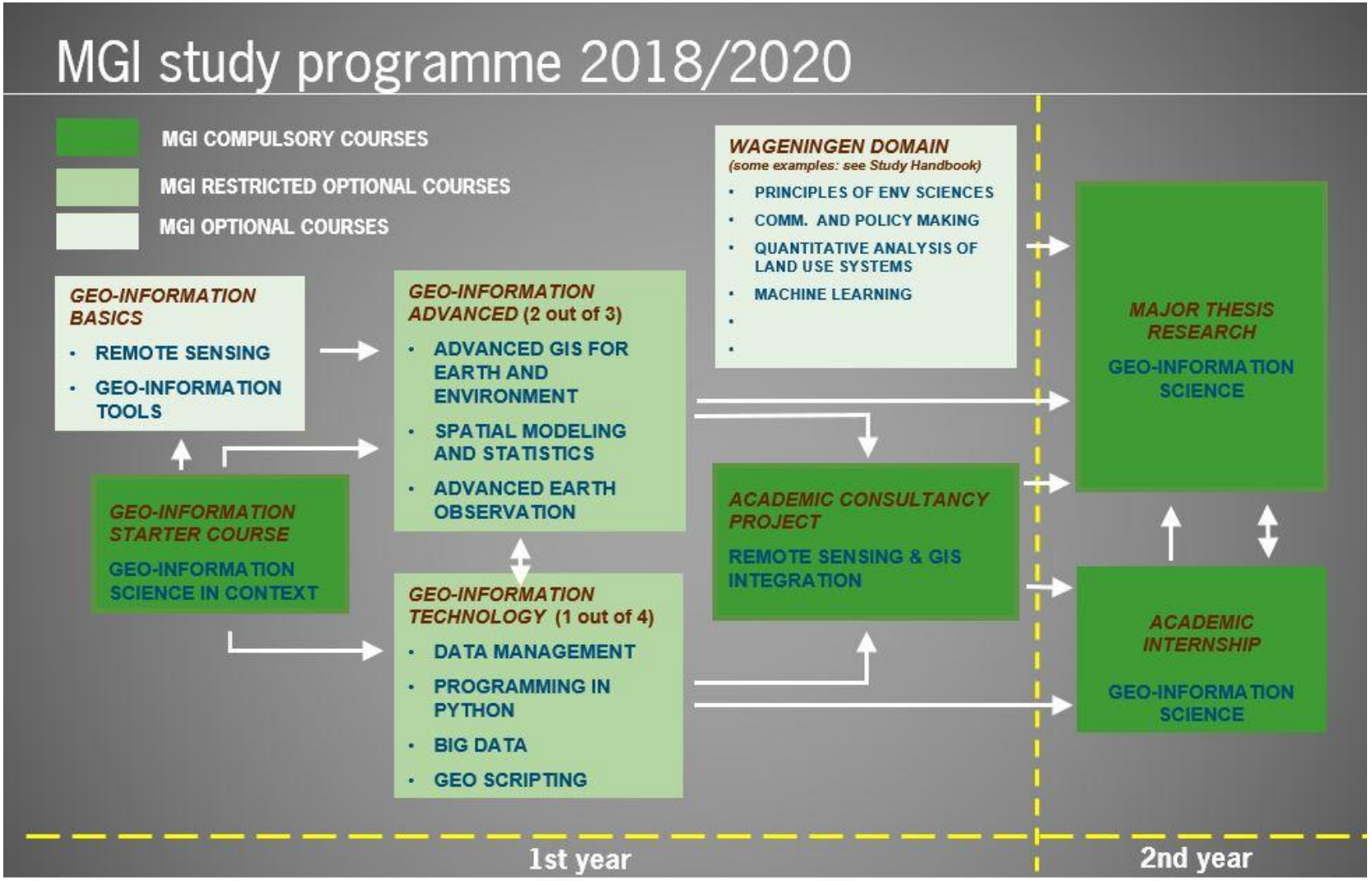


0. Final Learning outcomes

To educate graduates to become skilled geo-information scientists with the competences to analyse the usability of geo-information in complex spatial problems and to develop innovative and interdisciplinary solutions.

CONTEXT: the mission of Wageningen University: "to explore the potential of nature to improve the quality of life".

1. Structure programme



2. Courses 2017-2018

Course	Name	ECTS	Type	Year
GRS-34306	Geo-information Science in Context	6	CS	M1
GRS-60312	Remote Sensing and GIS Integration	12	CS	M1
GRS-70424	MSc Internship Geo-information Science and Remote Sensing	24	CS	M2
GRS-80436	MSc Thesis Geo-information Science and Remote Sensing	36	CS	M2
GRS-20806	Geo-information Tools	6	RO0	M1
GRS-20306	Remote Sensing	6	RO0	M1
GRS-33306	Advanced Geo-information Science for Earth and Environment	6	RO1	M1
GRS-32306	Advanced Earth Observation	6	RO1	M1
GRS-30306	Spatial Modelling and Statistics	6	RO1	M1
INF-22306	Programming in Python	6	RO2	M1
GRS-33806	Geo Scripting	6	RO2	M1
INF-21306	Data Management	6	RO2	M1
ESA-20806	Principles of Environmental Sciences	6	RO3	M1
PPS-30306	Quantitative Analysis of Land Use Systems (QUALUS)	6	RO3	M1
CPT-21806	Communication and Policy Making	6	RO3	M1

CS = Compulsory courses;

RO = Restricted optional;

RO0 = Choose 0-2 courses, if these competences are not present according to the study adviser;

RO1 = Choose 2 courses;

RO2 = Choose 1 course;

RO3 = Choose preferentially at least 1 course in the field of the Wageningen UR domain

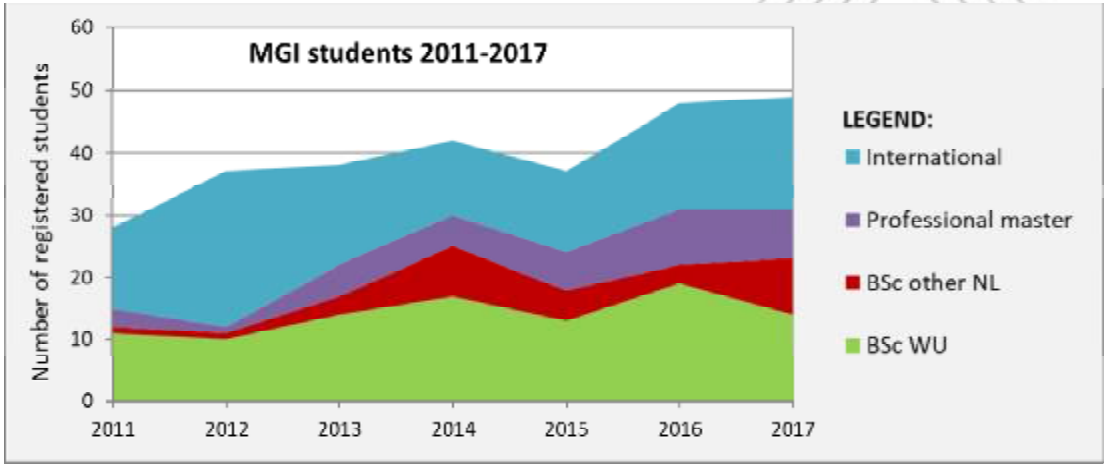
M1 = programme year 1;

M2 = programme year 2

New in 2018:

INF-3xx06 Big data

3. Numbers



	2013	2014	2015	2016	2017
Number of students	38	42	37	46	49
Foreign students	40%	30%	35%	35%	35%
Female students	40%	30%	30%	35%	30%

4. Unique

- **Combining Geo-information Science, Remote Sensing and Geo-IT**
- **Context Wageningen**
- **Intensive staff-student interactions**
- **Flexibility to follow own learning path: researcher, engineer and consultant**
- **Research themes in thesis and courses**
- **Internship and Academic Consultancy training (relation to professional field!)**

		Themes	Key topics
Disciplinary		Sensing and measuring	Improve physical underpinnings of land change time series analysis
		Modeling and visualization	Spatial-temporal processes & flows
Inter-disciplinary		Integrated land monitoring	"Big data" approaches for global land change assessments & resilience analysis
		Human-space interactions	Using citizens in the context of urban energy and material flows
Trans-discipline		Empowering agro-environmental Communities	Participatory, spatially enabled and interactive resource monitoring & management

5. Visitation

- **Last Visitation 2012; Next: Site visit 25-26 June 2018**

Overall judgement:	**good**
Intended learning outcomes:	**satisfactory**
Teaching-learning environment:	**good**
Assessment- Achieved Learning outcomes:	**good**

Remarks:

1) keep environmental focus ->

-> we expanded this to Wageningen mission: (1) natural resources and living environment (including urban); (2) food, feed and biobased production (examples: food quality, logistics) ; (3) society and well-being (social – urban)

2) Coherent path programming and geo database ->

-> more emphasis to geo-IT and data-science (geoscripting, big data)

3) Increase knowledge level of intake -> Core course Geo-information Science in Context at the start; distance learning material at the start (or just before)

6. Future

Discussion:

(A) Continuous change based on input of (1) Students, (2) Science, (3) Professional Field

Examples: Advanced geodata analysis, machine learning, point cloud analysis,..

Towards specialisations

(B) Implementation of vision of Wageningen University 2018:

High quality scientific knowledge;

Rich learning environment (real-world cases; activating teaching methods; feedback; education ecosystem)

Flexible learning paths.

Examples: Thesis rings (higher quality, study time), feedback by students,..