

Assessment plan 2023-2024 for:

Master's degree programme in Science Education and Communication

Introduction

This assessment plan is a systematic description of the testing and assessment modes for the study components in the curriculum of the Master's degree programmes in Science Education and Communication.

It comprises only the courses that are mandatory for both specializations (education and communication) and the mandatory and elective courses for the communication specialization. The other courses for the education specialization are part of the assessment plan of the teacher education master degree program;

The plan is based on the assessment policy of the Faculty of Science and Engineering, as set out in the 2013 version of the FSE Quality Assurance Manual (Chapter 4: Assessment) and the protocol setting out the duties and powers of the Faculty's Board of Examiners (April 2013).

The assessment plan for the curriculum consists of the following parts:

1. objective(s) of the degree programme
2. the learning outcomes of the degree programme
3. descriptions of the study components, as set out in the appendices to the Teaching and Examination Regulations 2022-2023 of the degree programme
4. Descriptions of the content of each study component in Ocasys, the online course catalogue. The following elements are relevant in this context:
 - objectives
 - description of content
 - examiners
 - assessment mode(s) and calculation of final mark
 - mode(s) of instruction
5. An overview of the examiners and a detailed assessment mode for each study component. This overview is based on the curriculum approved by the Programme Committee, as set out in the appendices to the Teaching and Examination Regulations <year> for the degree programme.
6. A matrix showing the relationship between the study components and the detailed learning outcomes for each competence area.

Parts 3 and 4 are not included in this document. For the descriptions of the study components, see the Appendix to the Teaching and Examination Regulations 2019-2020 for the degree programmes. Descriptions of the content of each study component can be found in Ocasys, the online course catalogue (<http://www.rug.nl/ocasys/>).

1. Objectives of the degree programme

The degree programme is designed to prepare students for professional practice in the field of science communication in The Netherlands or abroad, or as teachers of mathematics, physics, chemistry, biology or computer science qualified to teach in upper-level secondary education. It aims to impart specialized knowledge, skills and understanding in the field of science communication and science education.

2. Learning outcomes of the degree programme

Shared learning outcomes

Graduates

- EC-1. have advanced knowledge and understanding of concepts and research methods of their discipline and are able to communicate about these with colleagues in that discipline.
- EC-2. have the skills required to conduct research in their specialist field and are able to communicate about this with colleagues in that field.
- EC-3. have knowledge and understanding of the possibilities for utilizing communication resources and strategies used in science communication and education, and are able to communicate about these.
- EC-4. have the skills required to design communication resources for use in science communication and education, taking into account the target group and design context.
- EC-5. have the skills required to use sources (including academic sources) relating to science communication and education to form a founded judgement to analysing or solving a problem encountered in practice and to communicate about this.
- EC-6. have the skills required to conduct practice-oriented research in the field of science communication or science education, and to communicate about this.
- EC-7. have the skills required to work in a team in a professional environment in the field of science communication or science teaching.
- EC-8. have the skills (including reflective skills) and attitude required to enable them to continue their professional development in a manner that is largely self-directed or autonomous.

Differentiated learning outcomes for the Science Communication track

Graduates

- EC-C1. have basic knowledge and understanding of science disciplines other than their own, and are able to deepen this knowledge and communicate about it.
- EC-C2. have knowledge of historical developments in the science disciplines and of the philosophical backgrounds of those disciplines.
- EC-C3. are aware of the societal implications of scientific research and are able to form an informed and critical opinion about current developments in science and technology and science communication.
- EC-C4. have knowledge and understanding of a number of perspectives and theories relating to science communication and are able to apply these in order to analyse and design communication resources and strategies, and are able to communicate about this.
- EC-C5. are able to act consciously, ethically, and critically as intermediaries between science and society.

Differentiated learning outcomes for the Science Education track(s) and LVHO

The teacher training programme is designed to realize the aims laid down in the Teaching and Examination Regulations for teacher training at the University of Groningen.

3. Overview of examiners and testing and assessment modes for study components

Course unit name	EC	Examiner(s)	Modes of assessment***
Science Research Project [Discipline]	30	Examiners from all Master Programmes of our faculty	R, P (in accordance with TER of the respective Master Programmes)
Skills in Science Communication	5	Lemke Kraan * Natasja Grgurina Renee Lutke **	AST, R, P
Design for Science Education and Communication	10	Ferdinand van der Graaf * Charlotte Vlek **	AST, R
Science and the public	5	Lucy Avraamidou * Lemke Kraan **	AST

Science Communication and Journalism	5	Lemke Kraan * Henk Mulder **	AST
<i>History and Philosophy of Science</i> (not given in 23/24)	5	Erik Ducker * Henk Mulder **	AST
Citizen science: introduction, state of the art, and applications	5	M. Gharesifard * Henk Mulder **	AST
Science, Communication and Society	10	Henk Mulder * Lemke Kraan ** Mohammad Gharesifard	R, P
Nature of Scientific Disciplines	5	M. Gharesifard * Henk Mulder	AST, R
Research Methods in SEC	5	Lucy Avraamidou * tba (new TT Mathematics Education) **	AST
External Science Communication Project	15-25	Henk Mulder* Lemke Kraan ** Lucy Avraamidou ** Mohammad Gharesifard ** Renee Lutke **	AST, R
Research Projects in Science Communication	9-14	Lucy Avraamidou * M. Gharesifard ** tba (new TT Mathematics Education) **	AST, R, P
Portfolio Science Communication	1	Henk Mulder * Lucy Avraamidou ** Lemke Kraan **	AST
Internship Science Communication	5-15	Henk Mulder * Lemke Kraan ** Lucy Avraamidou ** Mohammad Gharesifard ** Renee Lutke **	R, AST
Science Education Research Project	5-15	Lucy Avraamidou* tba (new TT Mathematics Education)	AST, R, P

Three bachelor courses are assessed by examiners from the master programme:

Course unit	EC	Examiner(s)	Modes of Assessment
Introduction to Science Communication	5	Charlotte Vlek* Lemke Kraan*	AST, R
Oriëntatie op Onderwijs in de Bètawetenschappen	5	Enno van der Laan * Gerrit Roorda **	OR, R
Science Communication (UCG)	5	Mohammad Gharesifard * Lucy Avraamidou** Henk Mulder** Lemke Kraan	AST, PR, P

* Formal First examiner, ** Formal Second examiner

*** Assignment (AST), Interim test (IT), Multiple choice exam (MC), Oral exam (OR), Practical work (PR), Presentation (P), Report (R), Written exam (WE).

4. List of examiners of the master program Science Education and Communication 2022-2023

- L. Avraamidou
- E.P. Dücker
- F.H.C.E. van der Graaf
- M. Gharesifard
- L.T.J. Kraan
- J.E. van der Laan
- R. Lutke
- H.A.J. Mulder
- G. Roorda (Faculty of Behavioural and Social Sciences)
- C. Vlek
- N. Grgurina (Faculty of Behavioural and Social Sciences)

Examiners and modes of assessment for the Science Education track(s) are given in the Assessment Plan of the Teacher Education Program.

4. Relationship between course units and details of the learning outcomes

Learning Outcomes →	Shared (E and C)	EC-1	EC-2	EC-3	EC-4	EC-5	EC-6	EC-7	EC-8	C-track	EC-C1	EC-C2	EC-C3	EC-C4	EC-C5
Course Units (mandatory)															
Tracks Education and Communication															
Science Research Project		xxx	xxx												
Skills in Science Communication				x	x		x		x		x		x	x	x
Design for Science Education and Communication				xx	xx		x	x	xx					xx	x
Research Methods in SEC						x	xx								x
Track Communication															
Science and the public				xx	xx	x	x	x	x				x	xx	x
Science Communication and Journalism				xx	xx			x			x		xx		xx
History and Philosophy of Science		xx				x	x				xx	xxx	xx		x
Citizen science: introduction, state of the art, and applications				x	x	x		xx	xx				x	xx	xx
Nature of Scientific Disciplines					xx	x			xx		xxx		xx		xx
Science, Communication and Society						xx	xx	xx	xx			x	xxx	xx	xxx
External Science Communication Project				xxx	xxx	xxx	xxx	xxx	xxx				xxx	xxx	xxx
Science Communication Research project				xx		xxx	xxx		xxx					xxx	
Portfolio Science Communication									xxx						
Electives															
Science Education Research Project				xx	x	xxx	xxx		x						
Internship Science Communication				x*	x*	x*	x*	x*	x*				x*	x*	x*

x = orienting/preparing; xx = founding; xxx = compounding

x* = Learning outcomes depend on the length of the internship and its position in the individual program.

Relationships between course units and details of the learning outcomes for the Science Education track(s) and LVHO are given in the Assessment Plan of the Teacher Education Program.