



**Appendices to the Teaching and Examination
Regulations:
Master's degree programme in
Science Education and Communication**
official Dutch name: **Educatie en Communicatie in de Bètawetenschappen**
(2019-2020)

Clarification:

The Science Education and Communication degree programme is partly bilingual: in the Communication track students can choose to do the assignments either in English or in Dutch. A large part of the course units of the Education track are fully Dutch-taught only: the relevant course unit names are specified in Dutch below.

**Appendix I Learning outcomes of the degree programme
(art. 3.1)**

The degree programme is designed to

- a. 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
- b. impart specialized knowledge, skills and understanding in the field of science communication and science education

Shared learning outcomes

Graduates

- EC-1. have knowledge and understanding of the basic 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

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.

Appendix II Tracks of the degree programme (art. 3.5)

The degree programme comprises a joint programme plus a choice of one of the following tracks:

- Science Education: this track prepares students for a career as a teacher of mathematics, physics, chemistry, biology or computer science qualified to teach in upper-level secondary education
- Science Communication: this track prepares students for a career in the field of science communication.



**Appendix III Content of the degree programme (art. 3.6);
 Appendix IV Electives (art. 3.7);
 Appendix V Entry requirements and compulsory order of
 examinations (art. 4.4)**

The tracks consist of the following course units with their related student workloads, entry requirements and assessments:

1. Joint programme

<i>Course unit [course code]</i>	<i>ECTS</i>	<i>Entry requirements</i>	<i>Practical</i>
Skills in Science Communication [WMEC13004]	5	-	x
Research Project: [discipline] [WMEC13006]	30	-	x
Design for Science Education and Communication [WMEC13005]	10	-	x
Research Methods in SEC [WMEC13007]	5	Skills in Science Communication, Research Project: [discipline]	x

2-1. Science Education track

The courses of the Science Education track and their entry requirements can be found in the TER of the Department of Teacher Education.

In addition, to be admitted to the 2nd year of the Education-track, students need to have completed the Research Project: [discipline] [WMEC13006]

2-2. Science Communication track

<i>Course unit [course code]</i>	<i>ECTS</i>	<i>Entry requirements</i>	<i>Practical</i>
Science and the Public [WMEC17003]	5	-	x
Science Communication and Journalism [WNEC1WVJ5]	5	Skills in Science Communication	x
Science, Communication and Society [WNEC2WCM10]	10	Skills in Science Communication, Research Project: [discipline]	x
History and Philosophy of Science [WMEC17001]	5	Research Project: [discipline]	x
Nature of Scientific Disciplines [WMEC17002]	5	History and Philosophy of Science***, Design for Science Education and Communication, Research Project: [discipline]	x



External Science Communication Project [WMEC13008]	15	Design for Science Education and Communication, Skills in Science Communication, Research Project: [discipline]; *	x
Science Communication Research Project [WMEC13000]	9	Research Methods in SEC	x
Portfolio Science Communication [WMEC13001]	1		x
Subsidiary	15 #	**	**

* Additional requirements may apply depending on the assignment chosen.

** Depends on the course units chosen

*** Course is recommended

2-3 Choice of electives

<i>Course unit [course code]</i>	<i>ECTS</i>	<i>Entry requirements</i>	<i>Practical</i>
Science Education Research Project [WMEC13003]	5-10	Research Methods in SEC	x
Internship SC [WMEC13002]	5-15	Design for Science Education and Communication Design, Skills in Science Communication, Research Project: [discipline],*	x

* Additional requirements may apply depending on the assignment chosen.

** Students following the Communication track may take course units from 2-1 as electives, and students following the Education track may take course units from 2-2 as electives (on condition that they satisfy the entry requirements for these course units). Each student's choice of electives in the subsidiary must be approved by the Board of Examiners.

Course units offered by the degree programme for students from outside the degree programme:

<i>Course unit [course code]</i>	<i>ECTS</i>	<i>Entry requirements</i>	<i>Practical</i>
Oriëntatie op Onderwijs in de Bètawetenschappen [WBEC19001]	5		x
Introduction to Science Communication [WBEC19000]*	5		x

* students can choose to hand-in assignments in Dutch or English



Appendix VI Admission to the degree programme and different tracks (art. 2.1.1 + art. 2.2)

Admission requirements for the Master's degree in 'Science Education and Communication' – both tracks

A. Degree requirements:

Bachelor's degree in mathematics, computing science, physics, astronomy, chemistry, biology, pharmacy, engineering, or related disciplines.

B. In all cases the Admissions Board decides on admissions.

Aanvullende toelatingscriteria voor master 'Educatie en Communicatie in de Bètawetenschappen' (Nederlandstalig): Track Educatie

C. Voor niet-moedertaalsprekers van het Nederlands geldt er aanvullend de eis van een staatsexamen Nederlands als tweede taal, programma II (NT2-II).

D. Voor het volgen van de lerarenopleidingsvariant (Track Educatie) kunnen aanvullende eisen worden gesteld, te bepalen door de toelatingscommissie.

Additional admission requirements for the Master's degree in 'Science Education and Communication' (English): Science Communication track

Language requirements for the C-track:

C1. All students for whom English is not their native language must satisfy the following requirements:

- Speaking, writing: IELTS 7.0 (TOEFL subscores 25 (speaking) and 27 (writing); equivalent to CEFR C1, Cambridge English CAP>180)
- Reading, listening: IELTS 6.5 (TOEFL subscores 25 (reading, listening); equivalent to CEFR B2/C1 (preferably C1), Cambridge English CAE>160)
- Students that have obtained a bachelor's degree from an English-taught programme are exempted from this requirement.
- Dutch students with VWO-level English are exempted from the language requirement.

C2. Language requirements for those wanting to hand-in assignments in Dutch: Voor niet-moedertaalsprekers van het Nederlands geldt er aanvullend de eis van een staatsexamen Nederlands als tweede taal, programma II (NT2-II).



Appendix VII Transitional provisions (art. 7.1)

Transitional arrangement for the Master's in Science Education and Communication:

Discontinued course units				Substitute course units				
Course unit code	Course unit name	EC TS	Final exam period	Course unit code	Course unit name	EC TS	Explanation	Equivalent* Yes/No
WBEC1 5000	Education and Communication	5	Feb 2020	WBEC 19000	Introduction to Science Communication	5	For student that chose the C-part of the old course	Partly
				or				
				WBEC 19001	Oriëntatie op Onderwijs in de Bèta-wetenschappen	5	For students who chose the E-part of the old course	Partly

* It is also possible to substitute equivalent course units in the other direction. This can apply to students with a large backlog who want to fall under the new OER.

Discontinued course units from the Teacher Education Department and their substitutes can be found in the respective TER of the Teacher Education.

Appendix VIII Application deadlines for admission (art. 2.6.1) and decision deadlines (art. 2.6.3)

The deadlines for applications, for both non-EU and EU students, is May 1st. For detailed application deadlines (including response period by the Board of Admission), please visit the website.