Appendices to the Teaching and Examination Regulations 2012-2013 Master degree programme Astronomy

Appendix A Teaching outcomes of the degree programme (art. 1.3)

The degree programme aims to train the students in such a way that they acquire the insight, skills and knowledge that allow the recipient of the degree to establish a professional career in the field of Astronomy.

Appendix B Specializations of degree programme (art. 2.2)

The degree programme has the following specializations:
- Theoretical and Observational Astronomy
- Instrumentation and Informatics
- Science, Business and Policy

Appendix C Content of degree programme (art. 2.3)

Specialization Theoretical and Observational Astronomy

module	ECTS	assessment	practical
Quantum Universe core courses	20	see appendix D	see app. D
Advanced astrophysics courses	20	see appendix D	see app. D
Optional courses in science	20	see appendix D	see app. D
Master research / thesis	60	assessment of performance, report, presentation, attendance Astronomy colloquium	x

Specialization Instrumentation and Informatics

module	ECTS	assessment	practical
Advanced astrophysics courses	10	see appendix D	see app. D
Optional courses in Instrumentation and Informatics	10	see appendix D	see app. D
Principles of Measurement Systems	5	written examination	
Control Engineering	5	written examination, report	x
Applied Signal Processing	5	written examination, assignments	
Basic Detection Techniques	5	as indicated in appendix D of the year 2013-2014	
Space Mission Technology	5	as indicated in appendix D of the year 2013-2014	
Numerical Mathematics 2	5	written examination	x
Project Information Technology	10	assessment of performance, report, presentation	x
Internship in Industry	20	assessment of performance, report, presentation	x
Master research / thesis	40	assessment of performance, report, presentation, attendance Astronomy colloquium	x

Specialization Science, Business and Policy

module	ECTS	assessment	practical
Advanced astrophysics courses	30	see appendix D	see app. D
Course Science, Business and Policy	20	assignment, exam, attendance	
Internship Science, Business and Policy	40	assessment of performance, reports	x
Master research / thesis	30	assessment of performance, report, presentation , attendance Astronomy colloquium	x

Appendix D Optional modules (art. 2.4)

Quantum Universe Core Courses

module	ECTS	assessment	practical
General Relativity	5	written examination, assignment	
Computational Physics	5	assignments	x
Student seminar Quantum Universe	5	presentations	
Astroparticle Physics	5	written examination	
Mathematical Methods	5	written examination	

Advanced Astrophysics Courses

module	ECTS	assessment	practical
Yearly courses			
Applied Signal Processing	5	written examination, assignment s	
Inter Academy Course	5	written examination	
Biennial courses, offered in 2012-2013			
Formation and Evolution of Galaxies	5	written examination, assignments	
Virtual Observations	5	presentation, paper, assignments	x
Dynamics of Galaxies	5	written examination, assignments	
Stellar Structure and Evolution	5	written examination, problem sets, computer model project	x
Cosmic Structure Formation	5	Written examination, presentation, computer assignments	x
Biennial courses, offered in 2013-2014			
Active Galactic Nuclei	5	as indicated in appendix D of the year 2013-2014	
Space Mission Technology	5	as indicated in appendix D of the year 2013-2014	
High Energy Astrophysics	5	as indicated in appendix D of the year 2013-2014	
Basic Detection Techniques	5	as indicated in appendix D of the year 2013-2014	
Star and Planet Formation	5	as indicated in appendix D of the year 2013-2014	
Interferometry	5	as indicated in appendix D of the year 2013-2014	
Capita Selecta courses offered in 2012-2013			
Exoplanets	3	Written examination, presentation, computer assignment	x
Astrochemistry	3	presentation	
Neutron star structure	3	Presentation, computer assignment	x
Gas flow in galaxies	3	Presentation	

Capita Selecta courses offered in 2013-2014

four different capita selecta courses will be offered, as indicated in appendix D of the year 2013-2014

Optional Courses in Science

module	ECTS	assessment	practical
Optional courses at master level in (Applied) Mathematics, (Applied) Physics, Astronomy, Chemistry, Chemical Engineering or Computer Science	5	as indicated in appendix C or D of the corresponding MSc Programme	

Optional Courses in Instrumentation and Informatics

module	ECTS	assessment	practical
Accelerator Physics and Ion Optics	5	written examination, presentations	
Device Physics	5	written examination, case studies	
Experimental Methods of Trace Gas Research	5	written examination, report	x
Imaging Techniques in Radiology	5	as indicated in appendix C or D of the MSc programme in Biomedical Engineering	as indicated in appendix C or D of the MSc programme in Biomedical Engineering
Interferometry	5	as indicated in appendix D of the year 2013-2014	
Laser Cooling and Trapping	5	oral examination, active participation	
Scientific Visualization	5	as indicated in appendix C or D of the MSc programme in Computer Science	as indicated in appendix C or D of the MSc programme in Computer Science
Virtual Observations	5	presentation, paper, assignments	x

Appendix E Entry requirements (art. 3.2)

For students admitted to the programme there are no entry requirements for the individual modules.

Appendix F Admission to the degree programme and different specializations (art. 4.1.1 and 4.2)

Holders of the following Bachelor's degrees from the University of Groningen are considered to have sufficient knowledge and skills and will be admitted to the Master's degree programme in Astronomy on that basis:
- BSc Sterrenkunde

Appendix G Application deadlines for admission for international students (art. 4.5.1)

Deadline of Application	**Non-EU students**	**EU students**
MSc Astronomy	April 1st 2013	May 1st 2013

Decision deadlines (art. 4.5.3)

Deadline of Decision	**Non-EU students**	**EU students**
MSc Astronomy	June 1st 2013	June 1st 2013