

Appendices Teaching and Examination Regulations Master's Degree Programme 2010-2011

Biomedical Engineering

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

The graduate in Biomedical Engineering (BME):

1. has basic knowledge in the general field of BME;
2. is familiar with existing scientific knowledge, skills and attitudes in a specific BME field of expertise and is able to increase and develop these through study;
3. is capable of designing and conducting scientific research and of designing devices or systems in the field of expertise;
4. is capable of effective communication with other experts in the fields of biomedical science and technology and with lay people, both in writing and orally;
5. is capable of cooperating with other experts in international and multidisciplinary teams;
6. is capable to critically analyze and evaluate scientific literature;
7. is capable of systematic and creative working and thinking in analyzing complex problems;
8. is capable to reason soundly, integrate medical, ethical, cultural and social aspects into her/his work and to reflect critically on his/her own and others' work;
9. is prepared for a professional career in science and technology or in management and policy;
10. is capable of following a post-graduate training in BME, performing a PhD project and training him/herself continuously

Appendix B Specializations of the degree programme (art. 2.2)

The students can choose one of the following specializations:

- a) specialization Function Restoration Engineering
- b) specialization Medical Physics

Appendix C Content of degree programme (art. 2.3)

Master's Curriculum	Function Restoration	Medical Physics
	ECTS	ECTS
Biomechanics 2	5	5
Biomaterials 2	5	5
Imaging Techniques in Radiology	5	5
Biomedical Instrumentation	5	5

Numerical Methods	5	5
Technology and Ethics	3	3
Multidisciplinary Project	5	5
Quality of Life	2	2
Introduction Research Assignment	5	5
Colloids and Interface Science	5	
Integrated Lab Course Biomaterials	5	
Surface Characterization	5	
Recent Developments in Biomaterials	5	
Interface Biology	5	
Electronics		5
Medical Physics in Radiation Oncology		5
Nuclear Medicine, SPECT and PET		5
Radiation Physics		5
Principles of Measurement Systems		5
Optional Modules	10	10
Research Assignment	30	30
Internship	15	15

Mode of examination: : Written or Oral Exam (W), Practical or Report (R),
Presentation (P) or Essay (E)

Module	Mode of Examination
Biomechanics 2	RW
Biomaterials 2	W
Imaging Techniques in Radiology	RPW
Biomedical Instrumentation	RW
Numerical Methods	RW
Technology and Ethics	E
Multidisciplinary Project	RP
Quality of Life	R
Introduction Research Assignment	RP
Colloids and Interface Science	W
Integrated Lab Course Biomaterials	RP
Surface Characterization	RPW
Recent Developments in Biomaterials	RP
Interface Biology	RPW
Electronics	RW
Nuclear Medicine, SPECT and PET	W
Radiation Physics	W

Principles of Measurement Systems	W
Research Assignment	RP
Internship	RP
Introduction Research Assignment	RP
Medical Physics and Radiation Oncology	RW

Appendix D Optional modules (art. 2.4)

Master's Curriculum	Function Restoration	Medical Physics
	ECTS	ECTS
Product Design & Finite Element Method	5	
Stem Cells & Regenerative Medicine	5	
Solid Mechanics	5	
Physics of Transport Phenomena 2	5	
Optical Measurements in Medicine		5
Radiation Safety		3
MR Physics		5
Advanced Imaging Techniques		5
Applied Signal Processing		5
Scientific Visualization		5
Computer Vision		5
Mechatronics	5	5
Philosophy of the Natural Sciences	5	5
Reasoning and Arguing	5	5

Module	Mode of Examination
Product Design & Finite Element Method	R
Stem Cells & Regenerative Medicine	RP
Solid Mechanics	RW
Physics of Transport Phenomena 2	W
Optical Measurements in Medicine	RP
Radiation Safety	RW
MR Physics	W
Advanced Imaging Techniques	
Applied Signal Processing	RW
Scientific Visualization	R
Computer Vision	RW
Mechatronics	W
Philosophy of the Natural Sciences	W
Reasoning and Arguing	W

Appendix E Entry requirements and compulsory order of examinations (art. 3.2)

Module	After successfully passing exams modules
Integrated Lab Course Biomaterials	Colloid and Interface Science Interface Biology Surface Characterization
Principles of Measurement Systems	Electronics
Medical Physics for Radiation Oncology	Radiation Physics
MR Physics	Principles of Measurement Systems
Nuclear Medicine, SPECT and PET	Principles of Measurement Systems Radiation Physics

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

Holders of a Bachelor's degree in either Life Science & Technology, major Biomedical Engineering, or Physics or Applied Physics, from the University of Groningen are considered to have sufficient knowledge and skills and will be admitted to the Master's degree programme.

Admission requirements for the two specializations:

- specialization Function Restoration Engineering: Colloids and Interface Science as elective in the first year
- specialization Medical Physics: Electronics as elective in the first year

Appendix G Application deadlines for admission (art. 4.5.1)

Deadline of Application	Non-EU students	EU students
Biomedical Engineering	April 15 th 2010	June 1st 2010

Decision deadlines (art. 4.5.3)

Deadline of Decision	Non-EU students	EU students
Biomedical Engineering	June 15 th 2010	July 1st 2010