Appendices Teaching and Examination Regulations Master's degree programmes 2010-2011

Industrial Engineering and Management

Appendix A Aim of the degree programme (art. 1.3)

1. The students are able to describe a complex or advanced technological process and product in a managerial context.
2. The students are able to diagnose the functionality and performance of such processes and products in a multi-disciplinary way.
3. The students are able to (re)design such processes and products.
4. Students have knowledge, understanding and skills for doing research i.e. applying industrial engineering methodologies in research.
5. Students have the knowledge, understanding and skills for life long learning, (can reflect on their own scientific behavior) including information retrieval and ICT-use.
6. Students think critically and are able to communicate scientifically about a chosen solution approach with engineers and managers.
7. Students have the knowledge and understanding of advanced technology, managerial sciences and mathematics to do research and to enter a PhD-program in Industrial Engineering or a related discipline.
8. Students have professional skills for managerial, societal and ethical behavior when applying technology.

Appendix B Specializations of degree programme (art. 2.2)

Within the master's programme ofIndustrial Engineering and Management three specializations:

- Discrete Technology and Production Automation
- Information Engineering
- Product and Process Technology

Appendix C Content of degree programme (art. 2.3) and Appendix E Entry requirements (art. 3.1) and compulsary order of examinations

Module	**ECTS**	**Practical work**	**Examination form**[1)]	**Prerequisites**[2)]
Core programme	**65**			
Business Law	5	Yes	WE	
Simulation of business processes	5	Yes	ASS	
Strategic Management of Technology	5		WE	
Systems Engineering	5	Yes	ASS	Business System Design (ontwerpen v. bedrijfs-kundige systemen)
Applied capital budgeting &	5	Yes	WE	

finance				
Research Methodology	5	Yes	ASS	
Master's thesis preparation	5	Yes	ASS	Research Methodology, a minimal studyload of 0f 70 ECTS of the master's IEM programme
Master's thesis Research	30	Yes	ASS	Master's thesis preparation
DT-Specialization	**55**			
Operations Research 2	5		WE	
Mechatronics	5		WE	Principles of measurement systems
Principles of measurement systems	5		WE	Electronics
Flexible manufacturing automation	6	Yes	WE	
Robotics	5	Yes	WE	
Information Handling and System Design	5	Yes	ASS & OE	
Product development	5	Yes	WE	
Optional Modules	19		Var	
IT-Specialization	**55**			
Operations Research 2	5		WE	
Sustainable and Integrated Information Systems	5	Yes	ASS	Databases
Software architecture	5	Yes	ASS	
Business Intelligence	5	Yes	OE & ASS	
ICT management & consultancy	5	Yes	WE &ASS	
Distributed systems	5	Yes	ASS	
Optional Modules	25		Var	
PT-Specialization	**55**			
Information Handling and System Design	5	Yes	OE & ASS	
Transport phenomena 2	5		WE	Transport phenomena 1
Process design	10	Yes	ASS	
Advanced product engineering	5	Yes	ASS	Product technology
Product development	5	Yes	WE	
Optional modules	25		Var	

[1)]WE: Written examination, OE: Oral examination, ASS: assignment including report and/or presentation, Var: various; [2)] entry requirements and compulsary order of examinations

Appendix D Optional modules (art. 2.4)

Module	**ECTS**
Interfacial engineering	5
Project management	5

Field Course Business Development Ia	5
Advanced Purchasing & Supply Management	5
Advanced Product & Service Development	5
Management Acc. for Techn. Innovation	5
Services Marketing	5
Algorithms and datastructures	5
Advanced Web Technology	5
Specialization Course Finance	10
Field Course Small Business Management	10
ICT: Human & Organizational Issues	10
Inf. Systems for Operations & Supply Ch.	5
Small Business Economics	10
Resources and Sustainable Development	15
Polymer Products	5
Powder Technology	5
E-Venturing	5
Organizational Change and Business Development	5
Advanced HRM Ib	5
Organizing Innovation	5
Product Development, Product Management & Supply Chain Management	5
Process Innovation & Operational Excellence	5
Social System Analysis of Technical Innovation	5
Retail Marketing	5
Neural Networks	5
Software Patterns	5
Sustainability for Engineers	5
Multiple phase reactors 1	5
Global Operations & Supply Chains	5
Advanced Quality Management	5
Conflict Management & Industrial Relations	5
Management Consulting	5
Quantitative Logistics	10
Energy and Materials	10
Mobile Software	5
IEM-project	5
Business Development in Action	5
Specialization Course Applied Operations Research	10
Research Course Simulation Modelling & Use	5
Business Ethics & Corporate Social Responsibility	5
Usability engineering and analysis	5
Computational methods of science (A)	5
Device Physics (C)	5
Wiskundig modelleren (C)	5
Zonnecellen (A)	5
Golven en optica (A)	5
Operations Management Process Industries	5
Variatierekening en optimale besturingstheorie (B)	5
Applied finite elements	5
Catalysis for Engineers	5

Appendix F Admission requirements (art. 4.1 and 4.2)

- Holders of a Bachelor's degree in Industrial Engineering and Management from the University of Groningen. Admission is profile specific.

- Holders of a Dutch or foreign Bachelor's or Master's degree with equivalent learning outcomes as the Bachelor's degree programme Industrial Engineering and Management of the University of Groningen.

Appendix G Application deadlines for admission (art. 4.5)

Deadlines for application are:	June 1st for EU students
	April 15th for non-EU students