

Accreditation Report

Master's Degree Programme Management and Engineering in Electrical Power Systems

Provided by RWTH Aachen University in cooperation with Maastricht School of Management

Version: 26 June 2015

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A About the Accreditation Process

Name of the degree programme	Labels applied for	Previous accredi- tation	Involved Technical Commit- tees (TC) ¹									
Ma Management and Engineering in Electrical Power Systems	AR ²		02, 06									
Date of the contract: 14.01.2015	Date of the contract: 14.01.2015											
Submission of the final version of the self-assessment report: 03.03.2015												
Date of the onsite visit: 17.04.2015												
at: RWTH International Academy, Kackertstraße 10												
Peer panel:												
Prof. DrIng. Ernst Gockenbach, Leibniz Universität Hannover;												
Stephan Reinisch, Erfurt University o	Stephan Reinisch, Erfurt University of Applied Science (Student);											
Prof. Dr. Frank Schultmann, Karlsruh	e Institute of Tech	inology;										
Klaus Spiegel, sms Sales & Marketing	Support;											
Prof. DrIng. Martin Wölker, Univers	ity of Applied Scie	ence Kaiserslautern										
Representative of the ASIIN headqu	arter: Johanna Za	klika										
Responsible decision-making committee: Accreditation Commission for Degree Pro- grammes												
Criteria used:												
European Standards and Guidelines as of 10.05.2005												
Rules for the Accreditation of Study Programmes and for System Accreditation of the												

 ¹ TC: Technical Committee for the following subject areas: TC 02 – Electrical Engineering and Information Technology; TC 06 – Industrial Engineering
 ² AR: Siegel der Stiftung zur Akkreditierung von Studiengängen in Deutschland

Accreditation Council as of 02.12.2013

In order to facilitate the legibility of this document, only masculine noun forms will be used hereinafter. Any gender-specific terms used in this document apply to both women and men.

B Characteristics of the Degree Programme

a) Name	b) Areas of Speciali- zation	c) Corre- sponding level of the EQF ³	d) Mode of Study	e) Dou- ble/Joint Degree	f) Duration	•.	h) Intake rhythm & First time of offer	i) consecutive Master's Degree Programmes and Master's Degree Pro- grammes pro- viding further educa- tion	j) Study Pro- gramme Profile
Management and Engineering in Electrical Power Systems M.Sc.		Level 7	Full time	Maastricht!	4 Semester	120 ECTS	WS WS 2015/16	providing fur- ther education	research- oriented

³ EQF = The European Qualifications Framework for lifelong learning

According to § 2 Examination regulation the following **objectives** and **learning outcomes** (intended qualifications profile) shall be achieved by the Master degree programme:

"The Master Programme Management and Engineering in Electrical Power Systems (MME-EPS) is designed as a multidisciplinary, post graduate master degree course. The objective is to provide students with a deeper and more specialized knowledge and expertise in the engineering field of Electrical Power Systems and Economics/Management. Graduates of the Master's degree course use scientific methods and techniques. They have advances theoretical and analytical knowledge and profound communication skills and are able to take independently management oriented tasks and self-responsible actions. The graduate understands technological, economic and cultural challenges and tensions within an international context, has project management capacities and leads projects target oriented to success.

Graduates consistently and independently update and broaden their professional knowledge and skills. Graduates use the knowledge in a creative way with the aim of discovering new knowledge in order to develop solutions. The graduates have a critical awareness of the tasks at the interface between engineering and economic issues and have the knowledge and capability to identify new developments and technologies at an early stage and are able to evaluate the significance for their respective area of responsibility. The course is a foundation for the global occupation at all levels and departments of a company or a research institute. In addition, graduates acquire the academic qualifications for a PhD. Programme.

They will develop expertise to take responsible application oriented as well as research oriented tasks. Therefore it is a basic necessity to provide the students with specialized technical and management knowledge but also with important interpersonal skills:

- Analytical and interdisciplinary thinking (ability to combine engineering and management aspects)
- Acquisition of methodological and problem-oriented competencies
- Innovation, technology and research orientation
- Management skills (entrepreneurship, leadership responsibility, decision-making and team building abilities)
- Acquisition of intercultural competencies
- Ability for self-dependent and target-oriented actions and the ability to reflect them

• Acquisition of operative and planning qualifications

The following **curriculum** is presented:

	Module		WS - 1. Sem. S		WS - 1. Sem.		SS	SS - 2. Sem.			WS - 3. Sem		m. SS - 4. Sen		em.
Joint Programme			L	Е	Р	L	Е	Р	L	Е	Р	L	Е	Р	
	Compulsory Courses	CP	SWS SWS S		SWS	SWS SWS									
	Module "Electrical Machines" (IEM)	8				-							_		
RWTH Aachen (FB6)	Electrical Machines I	4	2	1											
Electrical Power	Electrical Machines II	4				2	1								
Engineering	Module "High Voltage Engineering" (IFHT)	8													
	High Voltage Engineering – Testing Systems	4	2	1											
	High Voltage Equipment in Electrical Transmission and Distribution Grids	4		1		2	1	1							
	Module "Automation of Complex Power Systems" (ACS)	6													
	Automations of Complex Power Systems	4	2	1											
	Automations of Complex Power Systems Seminar	2						2							
	Module "Battery Storage Systems" (ISEA / PGS)	5				-									
	Battery Storage Systems	4	2	1											
	Battery Storage Systems - selected Laboratory Exercises	1						2							
	Module "Power Electronics" (ISEA)	5		-		-				-					
	Power Electronics - Fundamentals, Topologies and Analysis	4	2	1											
	Power Electronics - Laboratory Exercises	1			1										
	Module "Power Systems" (IAEW)	8													
	Faults and Stability in Power Systems	4				2	1								
	Power Economics in the Liberalised Electricity Markets	4				2	1								
	Laboratory Exercise on "Power Engineering" (ALL)	5													
	Laboratory Exercise on Power Engineering	5					2	2							
	Total Compulsory Courses - Engineering	45				-	-		•	-					
	Entrepreneurial Strategy (Prof. Brettel)	5	2	2											
RWTH Aachen (FB8) Management	Strategic Technology Management (Prof. Salge)	5	2	2											
wanagement	Finance and Accounting (Prof. Letmathe)	5				2	2								
	Global Transformations and Sustainable Competitiveness	5							40	h/3we	eks				
	Organizational Development & Change	5							40	h/3we	eks				
MSM Maastricht	Research Methodology and Skills	5							40	h/3we	eks				
Management	Business Economics	5							40	h/3we	eks				
management	Responsible Supply Chain Management	5							40	h/3we	eks				
	Human Resource Management	5	40h/3weeks		40h/3weeks										
	Total Compulsory Courses - Business	45													
RWTH or MSM	Masterthesis	30										6	6 Month	19	
	Master´s Defense Colloquium	50										0			
	Total	120		31			29			30			30		

C Peer Report

Criterion 2.1 Qualification Objectives of the Study Programme Concept

Evidences:

- § 2 Examination regulation
- Self assessment report chapter 2.1 Objectives of the degree programme
- Webpage: <u>http://master-mechanical-engineering.com/course/msc-management-</u> engineering-electrical-power-systems (as consulted online on April 15th 2015)

Preliminary assessment and analysis of the peers:

The International Academy in cooperation with the Maastricht School of Management defined the study aims and the intended learning outcomes of the master programme at a level of higher education which corresponds to learning outcomes relevant to level 7 of the European Qualifications Framework for lifelong learning. The auditors appreciated the very specific objectives and learning outcomes of the Management and Engineering in Electrical Power Systems degree programme regarding the subject-specific knowledge. Students shall understand the major theories and concepts in the key areas of business management and electrical power systems and the main economic and social dynamics as well as technical trends behind the major global drivers of competitiveness and innovation. They shall obtain the major strategic approaches in employing innovation for business development. The students are capable of analysing complex problems, developing solutions to such problems for companies or industry sectors, and are able, at a junior manager level, to manage the implementation of these solutions both individually and in multidisciplinary, multicultural teams. They are capable of critically considering social, economic and technological impacts of corporate behaviour on particularly emerging economies and developing countries. Students have an improved competence in using quantitative and qualitative data and research methods, and in judging third reports that are based on such data and methods. Furthermore they learned to act as an autonomous, socially responsible and constructive critical thinker. They are able of taking responsibility for the continuous development of their knowledge and skills, and are able to critically reflect on the newly developed knowledge and skills.

The peers saw the objectives and intended learning outcomes published on the programme webpage and in the official documents (Examination regulation and Diploma Supplement).

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2.1:

The peers judged the requirements of the said criterion to be adequately met.

Criterion 2.2 (a) Conceptual Integration of the Study Programme in the System of Studies

The study programme complies with the requirements of the Framework of Qualification for German Degrees of 21 April 2005 in the respective valid version.

The analysis and assessment of the requirements of the Framework of Qualifications for German Degrees is made within criterion 2.1, in the following detailed analysis and assessment of the compliance with the Common Structural Guidelines of the Länder as well as in connection with criterion 2.3.

Criterion 2.2 (b) Conceptual Integration of the Study Programme in the System of Studies

Evidence:

- §§ 1 and 4 Examination regulation
- Example of Diploma Supplement
- Module catalogue
- §13 examination regulation (mutual recognition)
- Curriculum of the master programme
- Chapter 3.2 Workload and credit points of the self assessment report

Preliminary assessment and analysis of the peers:

Structure and duration of studies

The international master addresses high qualified students with a first degree in engineering, who like to live within an international environment and to study an interdisciplinary programme. The whole programme is held in English and comprised 120 credit points distributed on four semesters. The scope of the work for the Master's dissertation comprises 30 credit points.

Profiles of the study courses, Diploma Supplement

According to the classification of the master's degree programme, the HEI adjusted their written statement in the self assessment report. The study programme is classified as a further development programme, which formally is part of the RWTH International Academy. In accordance to the classification "further development" the admission require-

ments included the rule specifying the evidence of the mandatory professional experience of at least one year. The master follows the profile type "research-oriented". The peers acknowledged that the students shall undertake independently scientific research work, have the chance to participate in research projects and they are aware of future technologies, research and management trends. Furthermore it is intended to support students who have successfully completed the master programme to encourage them to follow a continuative academic career at the RWTH Aachen University or the Maastricht School of Management. The students received the academic degree "Master of Science".

The study-specific Diploma Supplement includes information about the study objectives, the intended learning outcomes ("qualification profile"), the structure, level, content and status of the studies as well as the respective workload of students and is available to stakeholders outside the university (potential employers or other HEI, national and international).

Modularisation, mobility and credit point system

The audit team found that the criterion for the award of ECTS credits is met. Since the programme has not started yet, an evaluation of the actual workload is not available. The peers got the impression that the workload is basically in line with the given ECTS credits. The projected time budgets seem to be realistic, so that the programme can be studied within the standard period of study for the degree. In the course of the conversation with the students from an affine study programme, the peers learned that those assessed the workload as suitable. They are convinced that it is possible to complete the study programme within the stipulated time.

The programme is modularly-built. The master's programme comprises 17 modules seven engineering modules carried out by the Faculty of Electrical Engineering and Information Technology of the RWTH Aachen University and 9 management modules realised by the Maastricht School of Management and the School of Business and Economics of the RWTH Aachen University. Each module of the master's Programme comprises between 5-8 ECTS (CP). Concerning the module descriptions the peers determined that the handbook had to be revised editorially in some place. Basically the descriptions contains all necessary information like contents and target qualifications, teaching formats, admission requirements, usability, conditions for the award of credits, credits and grades, workload and duration. The HEI confirmed that the module descriptions, the curriculum and other relevant information of the degree programmes were available on the subjectspecific webpage.

Mutual recognition

As for the recognition of qualifications gained from other institutions of higher education, in particular abroad, the provision in place is, by and large, directed to grades, credits and competences. Regulations concerning externally achieved credits are in place. Along the Lisbon Convention each university is asked to recognize activities completed externally unless the HEI can prove that the competencies gained at the other HEI are completely different.

The admission requirements of the degree programme (A2 of the Common Structural Guidelines of the Länder) are assessed within criterion 2.3.

Compliance with the "Framework Guidelines for the Introduction of Credit Point Systems and the Modularisation of Study Courses" of the programme is assessed within criterion 2.3 (modularization incl. module size), module descriptions, mobility, recognition), 2.4 (credit point system, student workload, exam load), and 2.5 (exam system: competenceoriented exam).

Criterion 2.2 (c) Conceptual Integration of the Study Programme in the System of Studies

The study programme complies with Länder- specific structural guidelines for the accreditation for Bachelor's and Master's study programmes.

North Rhine-Westphalia has not issued any specific structural guidelines for the accreditation of bachelor and master degree programmes.

Criterion 2.2 (d) Conceptual Integration of the Study Programme in the System of Studies

The study programme complies the binding interpretation and summary of (a) to (c) by the Accreditation Council.

No binding interpretations by the Accreditation Council must be taken into account at this point.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2.2:

The peers assessed that the aspects of the degree programme compile with the requirements.

Criterion 2.3 Study Programme Concept

Evidence:

- Study plan of the master programme
- Objective matrix
- Module catalogue
- § 3 examination regulation (admission and entry requirement)
- Chapter 3.3 Education methods of the self assessment report
- <u>http://master-mechanical-engineering.com/course/msc-management-engineering-electrical-power-systems</u> (as consulted online on April 15th 2015)

Preliminary assessment and analysis of the peers:

The panel acknowledged that the study concept (curriculum) of the programme is very much aligned to the expected learning outcomes. The engineering part of the programme will be conducted by the faculty of Electrical Engineering and Information Technology of the RWTH Aachen University. This faculty saw its prior mission in training high qualified and responsible engineers in the broad field of Electrical Engineering, Information Technology and Computer Engineering for leading positions in industry and society. Maastricht School of Management contributed the business-related component to this programme. Students are trained as a globally-oriented manager with knowledge of the core management processes and with understanding of the major social and environmental issues that set the scene for business processes in emerging economies. The study programme covers the imparting of specialised knowledge and interdisciplinary knowledge as well as of technical procedural and generic competences. Students learn how to deal with enhanced methodological and analytical methods both to solve discipline-specific research and practice-oriented problems under consideration of other disciplines. Also, students are able to develop innovative new methods to solve future questions. Moreover, it is intended to impart key qualifications that are important for an interdisciplinary way of thinking and working as well as to teach the students to be aware of future technologies, research and management trends, developments and problems in a multifaceted and globalized environment. The audit team wondered why the curriculum does not consider international legal aspects like patent right or working law. At this point they saw some room for improvement.

The auditors gained the impression that the teaching methods used for implementing the didactical concept are appropriate to support the attainment of the learning objectives. They appreciated the wide variety of didactical methods applied for teaching and the pos-

sibility for the students to experience the portfolio of two different HEI. They detected that students have time available to carry out independent academic work.

Apart from this, the audit team regretted that the compulsory components dominate the study plan. They deemed it specifically desirable to make room for individual profiling. Thus, personal technical and professional backgrounds could easily be connected and integrated in the further academic qualification/academical career.

After having visited the laboratories, the question came up to what extent the laboratory work or assignments are offered to students. In the discussion with the teachers, the peers acknowledged that students get sufficient opportunities for practical application in laboratories with view to their theoretical learning progress.

The auditors discussed with the representatives of the university to what extent the admission requirements have an impact on the quality of the degree programme. In general, they found the admission requirements and procedure appropriate to serve this purpose. They gained the impression that the applicable regulations are transparent and accessible. The programme coordinators illustrated the admission process in detail. It is important to note that the admission requirements of the interdisciplinary master's degree programme are agreed by both Maastricht School of Management and the RWTH Aachen. Prerequisite for the admission will be a recognized first university degree in Engineering - Bachelor of Engineering or Bachelor of Science with at least a standard period of studies of six semesters and 180 ECTS-credits. In order to be sufficiently qualified for the master course, the student applicant must have acquired the necessary knowledge in advanced mathematics, physics, circuit theory, circuit technology and electromagnetic field theory. Moreover, qualifications within the discipline of business administration and economics are mandatory in an amount of approx. 10 ECTS-credits.

For the consideration of the interests of handicapped students please refer to the assessment and analysis made within criterion 2.4.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2.3:

As mentioned before, the International Academy and the MSM develop new modules with deeper insights on soft and managing skills. A selection of elective courses with focus on "International Project Management", "Managerial Economics", "Sustainable, Intercultural & Intergenerational Management", "Leadership and High Performance Teams" and "Professional Negotiation Skills and Management of Conflicts" will be provided to the students in the near future. Therefore, an individual profiling of each student will be possible as well as a connection between technical and professional background. The audit-

team took the explanation into consideration. For the re-accreditation process the peers suggested an appropriate recommendation (E. 1).

The programme coordinators of the master's degree programme "Management and Engineering in Electrical Power Systems (MME-EPS)" consider the comment by the peers to include topics regarding international legal aspects (for example patent right or working law) as a valuable suggestion. The peers would check the implementation during the reaccreditation process (E. 3).

Criterion 2.4 Academic Feasibility

Evidence:

- Study plan of the master programme
- Module handbook (examinations, duration of the examination and number of examinations)
- Examination regulation
- Chapter 3.4 Support and advice
- Appendix P_RWTH Aachen University List of Advising Offices for students with disability or chronic illness

Preliminary assessment and analysis of the peers:

Apparently, there are sufficient resources to guarantee support and counselling for students. Both, the staff and the students seemed highly engaged in the activities and there evidently exists a good relationship between students and staff. Reportedly, the teaching staff is highly responsive towards the students' needs, which is reflected by the mentioned personal, social and programme-related advice and support through the International Academy, too. The peers got the impression that beside the study-related supervision, the Academy actively attempts to integrate the international student's through welcome days, intercultural trainings, field trips etc. The discussion with the students from the neighbouring study programme confirmed that the professional supervision is excellent. Regarding the professional and non-academic exchange with German student colleagues, the international students expressed the wish to intensive the contact and the interaction.

The peers considered the academic feasibility of the study programme as ensured through corresponding offers of support as well as technical and interdisciplinary course guidance.

Exam regulations also take the particular needs of disabled and chronically ill students into consideration and regulate the compensation for disadvantages.

The exam system is furthermore analysed and assessed in detail within criterion 2.5.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2.4:

At the RWTH Aachen University the number of student associations is very high. Students have the chance to get in touch with German fellow students by participating in those associations. During the two Welcome Days at RWTH Aachen University and the RWTH International Academy a wide range of associations presents themselves and invites the students to participate in their activities. Nevertheless, the programme coordinators consider inviting those associations to more social events held by the RWTH International Academy so that the students may get more in touch with fellow students. In supporting this the peers recommended to pursue this aspect in the long-term (E. 2).

Criterion 2.5 Examination System

Evidence:

- Module handbook
- Chapter 4. Examinations: system, concept and organization
- Chapter 4.1 exam methods
- Chapter 4.2 exam organization

Preliminary assessment and analysis of the peers:

The assessment methods are aimed at measuring the extent to which the learning objectives of the courses are achieved by the individual student. The diversity of assessment forms, including assignments and final exams as well as a variety of other assessment types, appeared typical for an assessment approach that intensively and continuously monitors student's achievements. The doubts of the peers that the transition from the second to third semester could interfere with the timescale for passing exams (until end of September) in Aachen and the beginning of the academic year (beginning of September) in Maastricht have been allayed. The representatives of the programme assured that they are able to react by offering individual examination dates for the students. They also learned that students are informed at the beginning of the teaching term about the examination requirements. They recognized that one supervisor for the final thesis is definitely from the university (Aachen or Maastricht) to make sure that a scientific work is provided. Due to the fact that the programme has not started yet, the peers could only assume that the final thesis guarantees that students can carry out an assigned task independently and at the level of the qualification sought. With regard to the regulations for compensating disadvantages of handicapped students please refer to criterion 2.4. For the binding force of the submitted rules and regulations refer to the analysis and assessment within criterion 2.8.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2.5:

The peers concluded that the requirements of the above mentioned criterion are sufficiently met.

Criterion 2.6 Programme-related Co-operations

Evidence:

- Website: <u>http://master-mechanical-engineering.com/joint-programme-msm</u> (as consulted online on April 15th 2015)
- Cooperation agreement between International Academy and Maastricht School of Management

Preliminary assessment and analysis of the peers:

The master programme Management and Engineering in Electrical Power Systems will be carried out collaborative by the three involved institutions; the Faculty of Electrical Engineering and Information Technology, the School of Business and Economics of the RWTH Aachen University and the Maastricht School of Management. The Dutch Maastricht Management School has a worldwide reputation for its programmes in business and management teaching and is responsible for the management teaching part of the programme in close cooperation with the School of Business and Economics of the RWTH Aachen University. The peers gained the impression that the collaboration from outside the institution is well used for the programme and to train students. These collaborations are also sufficient for the purpose and subject to binding arrangements. They found that the university as well the collaboration partners adequately stated the financing of the programme.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2.6:

The peers concluded that the requirements of the above mentioned criterion are sufficiently met.

Criterion 2.7 Facilities

Evidence:

- Staff handbook
- Financial Scheme
- Appendix E_Maastricht School of Management Facilities and Building
- Chapter 5.3 Institutional environment, financial and physical resources
- <u>http://www.rwth-aachen.de/cms/root/Die-RWTH/Jobs-</u>
 <u>Ausbildung/~pfz/Personalentwicklung/</u> (as consulted online on April 15th 2015)
- In the context of the on-site-visit: E.ON Energy Research Center

Preliminary assessment and analysis of the peers:

The peers discussed the financial situation and the institutional environment of the involved faculties with the representatives of the university. They learned that the International Academy as organizational body cooperated with institutes. In this case, the Academy also carried out parts of the study programme in the collaboration with the partner institution (MSM). While the International Academy is in charge of an intense extracurricular support programme, the scientific responsibility of all programmes is held by the RWTH Aachen University's institutes – leading to an official degree awarded by RWTH Aachen University itself. Maastricht School of Management is a private commercial institution with a number of institutional partnerships across the world. The international partner network serves as a good basis to include the international target group. In the course of the on-site visit, the audit team visited laboratories.

The centre for Learning and Knowledge Management (Zentrum für Lern- und Wissensmanagement – ZLW) is a central scientific institution at the RWTH Aachen University. The teaching staff members had sufficient possibilities to develop and train their didactical and professional skills. The competence, composition and range of staff recourses are suited to conduct the said study programme. The teaching staff's fields of expertise are sufficiently supportive to the structure and content of this programme. The peers noted that the professors from RWTH Aachen and as well from Maastricht School of Management concluded a separate contract with the International Academy. Thus, the teaching loads of the involved professors are not affected.

All in all, the characteristics of the research and development activities of the teaching staff support the desired outcome level of the programme from the auditors' point of view.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2.7:

The peers concluded that the requirements of the above mentioned criterion are sufficiently met.

Criterion 2.8 Transparency and Documentation

Evidence:

- Cooperation Agreement between RWTH International Academy
- Examination Regulation of RWTH Aachen University for the MME-EPS Degree Course
- Examination Regulation of RWTH Aachen University (ÜPO)
- Examination Regulation of Maastricht School of Management (MSM) including Participant Handbook
- MSM Quality Assurance Policy 2015
- RWTH Aachen University Evaluation Ordinance
- RWTH Aachen University Diploma Supplement (DE)
- N2 RWTH Aachen University Diploma Supplement (EN)

Preliminary assessment and analysis of the peers:

The regulations for study-relevant issues are not yet in place and available. Subject to other parts of this report, which may mention aspects which require revision, these regulations include all information necessary about the admission, course and completion of the degree. The peers concluded that the regulations should be in force and available for consultation.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2.8:

The peers welcome that the regulations for study-relevant issues will be in place and available for all stakeholders before the intended start of the programme. They understand that this process is still going on and, thus, they consider a relevant recommendation as valid (A. 1).

Criterion 2.9 Quality Assurance and Further Development

Evidence:

- Appendix I1_RWTH Aachen University Quality Assurance and Quality Management System
- Appendix I2_RWTH Aachen University Quality Goals
- Appendix J1_RWTH Aachen University Evaluation Ordinance
- J2 RWTH Aachen University Example of Evaluation Questionnaire (Eva-Sys) (DE)
- J3 RWTH Aachen University Example of Evaluation Questionnaire (Eva-Sys) (EN)

Preliminary assessment and analysis of the peers:

The auditors detected strong elements of a quality assurance system put into practice. The peers, in particular, were impressed by the detailed quality manual and the teacher's manual which are regarded as very useful instruments. In the discussion with the students, the audit team got the impression that feedback loops are effectively in practice and that the students are satisfied with the instruments put in place in order to collect their feedback.

The study programme has not started yet. For this reason the peers deduced the effectiveness of methods and instruments by made statements of students from an affine study programme. The evaluation regulation of the university contains in the peer's view suitable methods and instruments used to ensure that the quality of the degree programme is maintained and further developed. It is intended that the data analysis provides information about the entry positions of the graduates and the effectiveness of means to avoid possible inequalities within the institution. The quality management system puts those responsible in a position to discover and remedy weaknesses.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2.9:

The peers considered the requirements of the said criterion as satisfactorily fulfilled according to the nature of an accreditation procedure for study concept. Empirical results on the academic feasibility and on the internal quality assurance's effectiveness do not have to be presented.

Criterion 2.10 Study Programmes with a Special Profile Demand

In the previous chapters the peers are taking into account the special profile demand of the study programme.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2.10:

The peers deemed the requirements of the above cited criterion as fulfilled.

Criterion 2.11 Gender Justice and Equal Opportunities

Evidence:

- Self assessment report chapter 8 "Diversity and Equal Opportunities"
- <u>http://www.rwth-</u> <u>aachen.de/cms/main/root/Die RWTH/Einrichtungen/Einrichtungen A Z/~enn/Fam</u> <u>ilienservice/?lidx=1</u> (as consulted online on April 15th 2015)
- <u>http://www.rwth-</u> aachen.de/cms/main/root/%20Die_RWTH/Einrichtungen/Einrichtungen_A_Z/~enu/ <u>Runder_Tisch/?lidx=1</u> (as consulted online on April 15th 2015)

Preliminary assessment and analysis of the peers:

The peers found that the policies regarding the diversity aspect are convincingly demonstrated for the RWTH Aachen University and Maastricht School of Management. Over the next few years, implementing the diversity strategy, those diversity characteristics will be prioritized which are still likely to lead to unequal treatment. This unequal treatment may show itself, for example, in the underrepresentation of specific social groups at the university. These diversity characteristics and the objectives associated with them include: gender – improving gender equality, family and home responsibilities – enhancing familyfriendliness and work/life balance, social origins – enhancing equity in educational access, disability or chronic illness - improving accessibility nationality – promoting internationalization. The concept of the Higher Education Institution (RWTH Aachen) for gender justice and for the promotion of equal opportunities of students in special situations such as students having health impairments, students having children, foreign students, students with migration background and/or from so-called educationally disadvantaged classes are implemented at the level of the study programme.

Concerning the compliance in dealing with the interest of handicapped students please refer to criterion 2.4.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2.11:

The peers deemed the requirements of the above cited criterion as generally fulfilled.

D Additional Documents

No additional documents needed.

E Comment of the Higher Education Institution (15.05.2015)

The institution provided a detailed statement.

F Summary: Peer recommendations (18.05.2013)

Taking into account the additional information and the comments given by RWTH Aachen International Academy the peers summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	Accreditation Council seal (AR)	Maximum duration of accreditation			
Ma Management and Engi- neering in Electrical Power Systems	With requirements for one year	30.09.2020			

Requirements

A 1. (AR 2.8) The relevant regulations have to be subject to a legal check and must be in force.

Recommendations

- E 1. (AR 2.3) It is recommended to expand the range of electives to allow students to develop an individual focus.
- E 2. (AR 2.4) It is recommended to support the professional and non-academic exchange with German students.
- E 3. (AR 2.3) It is recommended to give international legal aspects (patent right, working laws) more consideration.

G Comment of the Technical Committees

Technical Committee – Electrical Engineering/Information Technology (12.06.2015)

Assessment and analysis for the award of the seal of the German Accreditation Council:

The Technical Committee discussed the procedure. It fully agreed with the assessment and recommended resolution of the peers. It proposes a minor editorial modification in recommendation 1 (range of electives). Furthermore, it asked to check the phrase "be in force" in requirement 1 ("put into force" might be more accurate) as well as the term "working laws" in recommendation 3 (is "Labour Law" the proper reference here).

The Technical Committee 02 – Electrical Engineering and Information Technology recommended the award of the seals as follows:

Degree Programme	Accreditation Council seal (AR)	Maximum duration of accreditation
Ma Management and Engi- neering in Electrical Power Systems	With requirements for one year	30.09.2020

Requirements

A 1. (AR 2.8) The relevant regulations have to be subject to a legal check and put into force.

Recommendations

- E 1. (AR 2.3) It is recommended to expand the range of electives allowing students to develop an individual focus.
- E 2. (AR 2.4) It is recommended to support the professional and non-academic exchange with German students.
- E 3. (AR 2.3) It is recommended to give international legal aspects (patent right, labour laws) more consideration.

Technical Committee – Industrial Engineering (03.06.2015)

With regard to contents, it fully agrees with the assessment of the peers.

Degree Programme	Accreditation Council seal (AR)	Maximum duration of accreditatior			
Ma Management and Engi- neering in Electrical Power Systems	With requirements for one year	30.09.2020			

H Decision of the Accreditation Commission

Assessment and analysis

With regard to contents, it fully agrees with the assessment of the peers and the technical committees.

The Accreditation Commission for Degree Programmes decides to award the following seal:

Degree Programme	Accreditation Council seal (AR)	Maximum duration of accreditation			
Ma Management and Engi- neering in Electrical Power Systems	With requirements for one year	30.09.2020			

Requirements

A 1. (AR 2.8) The relevant regulations have to be subject to a legal check and put into force.

Recommendations

- E 1. (AR 2.3) It is recommended to expand the range of electives to allow allowing students to develop an individual focus.
- E 2. (AR 2.4) It is recommended to support the professional and non-academic exchange with German students.

E 3. (AR 2.3) It is recommended to give international legal aspects (patent right, labour laws) more consideration.