Co-funded by the Erasmus+ Programme of the European Union

Personalised Engineering Education in Southern Africa

PEESA III

Quality Control Plan

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Introduction

This document presents the Quality Control Plan for Erasmus + Project No. 585966-EPP-1-2017-1-DE-EPPKA2-CHBE-JP "Personalised Engineering Education in Southern Africa" (PEESA III). It is developed in the scope of the WP 3 (Quality Plan) of the Project in compliance with the Project description and all applicable rules & guidelines.

ASIIN supports PEESA III in understanding education as a development and learning process through which diverse competencies will be obtained as a result. Quality control at ASIIN as well as in the context of the PEESA III project is understood to be an integral part of the project and thus envisages ensuring that the project objectives are met in the most effective way following the general timeline of the project progress. As a major target of the PEESA III project not only new Engineering degree programmes shall be developed within South African Universities of Technology, but it shall also be ensured, that these programmes comply with international standards, thus contributing to the on-going internationalization process of the country's institutions of higher education. As a benchmark for the internationally recognized standards, serve the EUR-ACE criteria defined by the European Network for Accreditation of Engineering Education (ENAEE) (see Appendix 1). These standards and criteria have been aligned to the ASIIN standards and criteria, ASIIN being an accreditation agency authorized by ENAEE to check the standards and to award the EUR-ACE Label in the course of their accreditation procedures.

It is the task of ASIIN within the project to support the South African partner universities in compiling self-assessment reports, in which they measure their developed programmes and institutions against the EUR-ACE criteria. At the end of the project, the partners are supposed to be able to apply for an international EUR-ACE accreditation making use of their fully prepared reports.

This Quality Control Plan defines the general approach to quality control as well as how a smooth flow of the project and solutions of arising issues will be developed and ensured. It further outlines the procedures for effective communication within the project among the partners. The document outlines, which measures will be applied to ensure the quality of the

deliverables and by what mechanisms the constant progress of the entire project is monitored.

Strategy of the Project Quality Control

The quality control strategy of the PEESA III project aims at ensuring that the quality in both deliverables and project activities is constantly high, monitored and – if necessary – improved. The present QCP will describe the project's internal guidelines for reporting and reviewing procedures to ensure the project's Quality Assurance. A major focus lies on the assessment of quality assurance as well as monitoring and evaluation the project management, individual partners' progress, communication, dissemination, working meetings and the steering group performance. In addition, project quality control though the administration of ASIIN reviews the quality of the major project outputs. Consequently, a thorough and continuous quality assurance process will be ensured from the development of deliverables, the co-operation within the project and on to the final presentation of project results. Quality Control within the PEESA III project will follow the subsequent steps:

Continuous day-to-day Quality Assurance:

With ASIIN as partner of the PEESA III project one of the leading internationally active Quality Assurance agencies is taking care of the constant review process of all procedures, communication and project deliverables in form of several evaluation procedures (surveys). Representatives from ASIIN will also be present during all project events and board meetings, as well as being available at any time via phone and mail for all partners. The major task is to make sure that an opportunity for review and quality check of all documents produced in the context of the development of self-assessment reports for a potential accreditation of the degree programmes is available to the project partners if required.

Online evaluations of regular project meetings:

The project communication will be ensured and constantly improved through face-to-face meetings every six months at different locations. Each partner involved in the project will host one meeting event. These meetings are considered to be major milestones on the

way to a successful project conclusion and need to be monitored individually. After each meeting ASIIN prepares a survey comprising questions about the organization of the event, the presentations, the material provided in advance, etc. (see Appendix 2 for questionnaire). The survey will be made available online through the tool Lime Survey targeting a complete set of data from all meeting participants. Survey results will be individually analysed by ASIIN and communicated to the hosts of the event and the project management for further discussion. In case the surveys detect any serious deviations from the expected outcome adequate measures will be initiated by the project management.

Online evaluations of the general and individual project progress:

While the above-mentioned meeting evaluations focus solely on more or less isolated events, a second survey is carried out bi-annually through the project in order to monitor the project progress in general and the performance of the individual project partners (see Appendix 3). The questions of this second survey focus primarily on the partners' understanding of deliverable progress, project communication and dissemination success. Through this measure a constant track-keeping of each partner will be made possible and deviations from the partners' individual timetables can be detected and discussed with the project management.

Outcome evaluation:

The project aims at the development and implementation of Engineering Master's programmes at the South African partners' Universities. The quality of the programmes thus to be developed will be eventually measured against the international renowned standards and criteria defined by the European Engineering Association label EUR-ACE (see Appendix 1). The EUR-ACE standards are based in several development steps since 2006 on the overarching framework of qualifications of the European Higher Education Area (EHEA Framework or QF-EHEA) as adopted by the Ministers of Education of the Bologna Process, including the Dublin Descriptors as well as the European Qualifications

Framework for Lifelong Learning (EQF) as developed by the European Commission in 2008. Furthermore, they have been formulated to be substantially compliant with the relevant sections of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) in revised 2015 edition.

ASIIN being entitled to award this label has great experience in accompanying institutions on their way to document their programmes' standards for a successful accreditation procedure. The presentation of at least three potentially successful self-assessment reports for the application of the EUR-ACE label being a major goal of the project, ASIIN will function as a review and support instance assuring the high quality of the documents produced. At certain intervals, the South African project partners are required to present elements of the self-assessment report to the ASIIN office that will consequently be checked and reviewed. If the EUR-ACE standards would not be met ASIIN will provide critical feedback for the further improvement. In the course of the project the development and revision of the self-assessment report (SAR) will proceed as follows:

Task	Criteria	Deliverable	Outcome	Period
a) Introduction to the EUR-ACE Standards	Not applicable	ASIIN: Presentation on EUR-ACE and ASIIN Standards and Criteria; Templates for the preparations of SAR's, Module Descriptions and Objectives-Module Matrices; time-table for the upcoming deliverables	All partner universities are informed about the EUR-ACE requirements and the deadlines for delivering respective parts of the SAR; the partners understand the concept outcome-oriented learning objectives for degree programmes	Start of the project until 07/2018
b) Description of the Degree Programme: Concept, content & implementation	▪ Objectives and learning outcomes of a degree programme ▪ Curriculum ▪ Module descriptions	Universities of Technology (UoT): Draft versions of the SAR's including Objectives-Module Matrices, curricular structures, and module descriptions. ASIIN: Review reports on all delivered SAR's.	All UoT's have defined learning objectives for their programmes in accordance with the EUR-ACE standards; these are adequately reflected in a draft curriculum and the particular learning outcomes of the mandatory modules; the learning outcomes of the programmes are matched against the EUR-ACE standards in an Objects-Module Matrix	08/2018 – 02/2019
c) Description of the Degree Programme: structures, methods, exams, resources	▪ Structure and modules ▪ Work load and credits ▪ Teaching methodology	Universities of Technology (UoT): Draft versions of the SAR's with a special focus on the	All UoT's demonstrate that the students can achieve the previously defined learning outcomes and that the	03/2019 – 11/2019

	▪ Exams: System, concept and organisation ▪ Staff and Funds	organizational structure of the modules including calculation and distribution of workload, mobility options or students, implementation of student-centred learning and outcome-oriented exam structure. ASIIN: Review reports on all delivered SAR's.	organizational design of the curricula contributes to the study success of the individual; furthermore, the programmes contribute to the internationalization process.	
d) Description of the Degree Programme: Quality management	▪ Quality Management ▪ Quality Development	Universities of Technology (UoT): Draft versions of the SAR's with a special focus on the HEI's quality assurance system and the procedures in place to continuously develop the respective programmes. ASIIN: Review reports on all delivered SAR's.	All UoT's demonstrate that they dispose of an elaborate quality assurance system, ensuring the on-going development process of the respective programmes. Furthermore, it is guaranteed that all stakeholders, especially the students, are actively involved in the quality improvement process and that the feedback loops are closed.	12/2019 – 05/2020
e) Completion of SAR's	Not applicable	Universities of Technology (UoT): The SAR's a finalized including all EUR-	All UoT's possess a complete SAR documenting their programmes' compliance with	06/2020 – 10/2020

		ACE-relevant information and complying with the defined standards and criteria. ASIIN: Final review report on the development process of the SAR's.	the EUR-ACE standards. Through the final review report ASIIN outlines the development process and further details potential room for improvement of the programmes in the future.	

As was outlined, the quality assurance activities will be based in qualitative data (from personal interviews and discussions as well as meeting participation) and on quantitative data (from the general surveys comprising the total sum of all project partners and meeting participants.

ASIIN Activity Plan throughout the PEESA III project

Activity N°	Activity Title	Start date	End date	Place	Team members involved	Description of the activity to be carried out	Deliverable/outputs (tangible)/ Outcome (intangible)/ result	Specific and measurable indicators of achievement
1	Preparation of QM	15.11.2017	18.11.2017	Pretoria, South Africa	Dr. Iring Wasser	Presentation of Quality Assurance procedure to project partners	A presentation at the first PEESA III meeting indicating the quality assurance approach	Presentation of the speech delivered
2	Preparation of Self-Assessment Reports	18.06.2018	21.06.2018	Flensburg, Germany	Dr. Martin Foerster; Pia Schorn	Presentation of international (EUR-ACE) accreditation	A workshop delivered at the second PEESA Meeting outlining the ASIIN/ENAEE accreditation criteria	Presentation of the workshop
3	Evaluation of meeting quality	November 2017	October 2020	Düsseldorf, Germany	Dr. Martin Foerster; Dr. Iring Wasser, Pia Schorn, Daniel Wörhoff	An online-based survey is carried out after each project meeting; results of the surveys are analysed and presented to	At regular intervals the collected data and analysis results are presented to the project board and conclusions concerning the project development as well as improvement	Data collected from the surveys; summarized analysis reports presented to the board

						the project board	measures are recommended	
4	Bi-Annual project survey	January 2019	October 2020	Düsseldorf, Germany	Dr. Martin Foerster; Dr. Iring Wasser; Daniel Wörhoff	An online-based survey is carried out twice a year at regular intervals after the end of the starting phase of the project; the survey questions the development of the project as a whole form the perspective of the project partners	The survey results in analysis reports that allow a tracking of the project progress as a whole as well as of each individual partner; thus it can be ensured that the schedule envisaged during the project meetings are kept and if not what measures should be taken for improvement	Data collected from the surveys; summarized analysis reports presented to the project board
5	Final evaluation report		October 2020	Düsseldorf, Germany	Dr. Iring Wasser; Dr. Martin Foerster	As part of the final documentation of the project ASIIN will present an evaluation of the three of the self-assessment	It shall be estimated in how far the delivered reports comply with ASIIN and EUR-ACE Standards and if they were suitable for an international accreditation	Final e valuation report

						reports developed during the project		

Appendix 1: EUR-ACE Standards and Guidelines (edition 31st March 2015)

Standards and Guidelines for Accreditation of Engineering Programmes

1.1 Introduction

The EUR-ACE® Standards and Guidelines for Accreditation of Engineering Programmes (EAFSG) are described here in terms of Student Workload Requirements (Sect 2.2), Programme Outcomes (Sect. 2.3) and Programme Management (Sect. 2.4).

The Student Workload Requirements and the Programme Outcomes are compliant with the overarching **Framework of Qualifications for the European Higher Education Area (EQF),** adopted by the Bergen Conference of European Ministers responsible for Higher Education on 19-20 May 2005. The framework "*comprises three cycles (including, within national contexts, the possibility of intermediate qualifications), generic descriptors for each cycle based on learning outcomes, and credit ranges in the first and second cycles*".

The overall result of the application of the EQF is a range of Bachelor and Master Degree programmes in engineering now offered in European Higher Education Institutions. These are described here in terms of the European Credit Transfer System as follows:

a) Fulltime Bachelor degree programmes in engineering are now of 180, 210 or 240 ECTS credits.

b) Fulltime Master degree programmes in engineering are of 60, 90 or 120 ECTS credits.

As established by the "Recommendation of the European Parliament and of the Council" of 23 April 2008, the descriptor for the first cycle in the Framework for Qualifications of the European Higher Education Area (Bologna process) corresponds to the learning outcomes for the EQF, level 6. The descriptor for the second cycle in the Framework for Qualifications of the European Higher Education Area corresponds to the learning outcomes for the EQF, level 7.

The Programme Outcomes are consistent with the provisions of the EQF.

The Programme Management requirements are consistent with the **Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)**, adopted by the 2005 Bergen Conference of European Ministers responsible for Higher Education.

1.2 Student Workload Requirements

The workload requirements are described using ECTS credits.

ENAEE describes the Programme Outcomes for Bachelor and Master Degree programmes normally structured as follows:

- Bachelor Degree programmes, of a minimum of 180 ECTS credits.
- Master Degree programmes, of a minimum of 90 ECTS credits (60 in some educational systems).
- Master Degree programmes which are integrated and which, normally, do not include the award of a Bachelor Degree, should comprise ECTS credits consistent with the above: i.e. a minimum of 270 ECTS credits (240 in some education systems).

1.3 Programme Outcomes Framework

(a) **Programme Outcomes** describe the knowledge, understanding, skills and abilities which an accredited engineering degree programme must enable a graduate to demonstrate. The Programme Outcomes specified below apply to accredited programmes which are to be awarded a EUR-ACE label by an authorised agency. In this document, the term **learning outcome** is used only to describe the knowledge, understanding, skills and abilities which apply to individual course units/modules.

(b) The Programme Outcomes specified in this document are intended to be applicable to the full range of Bachelor and Master Degree programmes in engineering offered in European HEI's. They have to be considered as the 'minimum threshold' defined by the ENAEE community and to be fulfilled in order to assure the quality of engineering programmes.

(c) The Programme Outcomes can be used in both the design (by engineering academics) and the evaluation (by accreditation agencies) of programmes in all branches of engineering and for different profiles.

(d) The standards describe the Programme Outcomes that accredited programmes must meet, but do not prescribe how they are realised. Consequently, no restriction is implied or intended by the EAFSG in the design of programmes to meet the specified Programme Outcomes. HEI's retain the freedom to formulate programmes with an individual emphasis and character, including new and innovative programmes, and to prescribe conditions for entry into each programme.

(e) The Programme Outcomes are described here separately for both Bachelor and Master Degree programmes with reference to the following eight learning areas:

- Knowledge and understanding;
- Engineering Analysis;
- Engineering Design;
- Investigations;
- Engineering Practice;
- Making Judgements;
- Communication and Team-working;
- Lifelong Learning.

(f) The **ENAEE/IEA Glossary of Terminology** is used to verify terms used in this document.

2.3.1 Programme Outcomes for Bachelor Degree Programmes

Knowledge and Understanding

The learning process should enable **Bachelor Degree graduates to demonstrate**:

- knowledge and understanding of the mathematics and other basic sciences underlying their engineering specialisation, at a level necessary to achieve the other programme outcomes;
- knowledge and understanding of engineering disciplines underlying their specialisation, at a level necessary to achieve the other programme outcomes, including some awareness at their forefront;
- awareness of the wider multidisciplinary context of engineering.

Engineering Analysis

The learning process should enable **Bachelor Degree graduates to demonstrate**:

- ability to analyse complex engineering products, processes and systems in their field of study; to select and apply relevant methods from established analytical, computational and experimental methods; to correctly interpret the outcomes of such analyses;
- ability to identify, formulate and solve engineering problems in their field of study; to select and apply relevant methods from established analytical, computational and experimental methods; to recognise the importance of non-technical –societal, health and safety, environmental, economic and industrial - constraints.

Engineering Design

The learning process should enable **Bachelor Degree graduates to demonstrate**:

- ability to develop and design complex products (devices, artefacts, etc.), processes and systems in their field of study to meet established requirements, that can include an awareness of non-technical – societal, health and safety, environmental, economic and industrial– considerations; to select and apply relevant design methodologies;
- ability to design using some awareness of the forefront of their engineering specialisation.

Investigations

The learning process should enable **Bachelor Degree graduates to demonstrate**:

- ability to conduct searches of literature, to consult and to critically use scientific databases and other appropriate sources of information, to carry out simulation and analysis in order to pursue detailed investigations and research of technical issues in their field of study;
- ability to consult and apply codes of practice and safety regulations in their field of study;
- laboratory/workshop skills and ability to design and conduct experimental investigations, interpret data and draw conclusions in their field of study.

Engineering Practice

The learning process should enable **Bachelor Degree graduates to demonstrate**:

- understanding of applicable techniques and methods of analysis, design and investigation and of their limitations in their field of study;
- practical skills for solving complex problems, realising complex engineering designs and conducting investigations in their field of study;
- understanding of applicable materials, equipment and tools, engineering technologies and processes, and of their limitations in their field of study;
- ability to apply norms of engineering practice in their field of study;
- awareness of non-technical -societal, health and safety, environmental, economic and industrial - implications of engineering practice;
- awareness of economic, organisational and managerial issues (such as project management, risk and change management) in the industrial and business context.

Making Judgements

The learning process should enable **Bachelor Degree graduates to demonstrate**:

- ability to gather and interpret relevant data and handle complexity within their field of study, to inform judgements that include reflection on relevant social and ethical issues;
- ability to manage complex technical or professional activities or projects in their field of study, taking responsibility for decision making.

Communication and Team-working

The learning process should enable **Bachelor Degree graduates to demonstrate**:

- ability to communicate effectively information, ideas, problems and solutions with engineering community and society at large;
- ability to function effectively in a national and international context, as an individual and as a member of a team and to cooperate effectively with engineers and non- engineers.

Lifelong Learning

The learning process should enable **Bachelor Degree graduates to demonstrate**:

- ability to recognise the need for and to engage in independent life-long learning;
- ability to follow developments in science and technology.

2.3.2 Programme Outcomes for Master Degree Programmes

Knowledge and Understanding

The learning process should enable **Master Degree graduates to demonstrate**:

- in-depth knowledge and understanding of mathematics and sciences underlying their engineering specialisation, at a level necessary to achieve the other programme outcomes;
- in-depth knowledge and understanding of engineering disciplines underlying their specialisation, at a level necessary to achieve the other programme outcomes;

- critical awareness of the forefront of their specialisation;
- critical awareness of the wider multidisciplinary context of engineering and of knowledge issues at the interface between different fields.

Engineering Analysis

The learning process should enable **Master Degree graduates to demonstrate**:

- ability to analyse new and complex engineering products, processes and systems within broader or multidisciplinary contexts; to select and apply the most appropriate and relevant methods from established analytical, computational and experimental methods or new and innovative methods; to critically interpret the outcomes of such analyses ;
- ability to conceptualise engineering products, processes and systems;
- ability to identify, formulate and solve unfamiliar complex engineering problems that are incompletely defined, have competing specifications, may involve considerations from outside their field of study and non-technical – societal, health and safety, environmental, economic and industrial – constraints; to select and apply the most appropriate and relevant methods from established analytical, computational and experimental methods or new and innovative methods in problem solving;
- ability to identify, formulate and solve complex problems in new and emerging areas of their specialisation.

Engineering Design

The learning process should enable **Master Degree graduates to demonstrate**:

- ability to develop, to design new and complex products (devices, artefacts, etc.), processes and systems, with specifications incompletely defined and/or competing, that require integration of knowledge from different fields and non-technical - societal, health and safety, environmental, economic and industrial commercial – constraints; to select and apply the most appropriate and relevant design methodologies or to use creativity to develop new and original design methodologies.
- ability to design using knowledge and understanding at the forefront of their engineering specialisation.

Investigations

The learning process should enable **Master Degree graduates to demonstrate**:

- ability to identify, locate and obtain required data;
- ability to conduct searches of literature, to consult and critically use databases and other sources of information, to carry out simulation in order to pursue detailed investigations and research of complex technical issues;
- ability to consult and apply codes of practice and safety regulations;
- advanced laboratory/workshop skills and ability to design and conduct experimental investigations, critically evaluate data and draw conclusions;
- ability to investigate the application of new and emerging technologies at the forefront of their engineering specialisation.

Engineering Practice

The learning process should enable **Master Degree graduates to demonstrate**:

- comprehensive understanding of applicable techniques and methods of analysis, design and investigation and of their limitations;
- practical skills, including the use of computer tools, for solving complex problems, realising complex engineering design, designing and conducting complex investigations;
- comprehensive understanding of applicable materials, equipment and tools, engineering technologies and processes, and of their limitations;
- ability to apply norms of engineering practice;
- knowledge and understanding of the non-technical – societal, health and safety, environmental, economic and industrial - implications of engineering practice;
- critical awareness of economic, organisational and managerial issues (such as project management, risk and change management)

Making Judgements

The learning process should enable **Master Degree graduates to demonstrate**:

- ability to integrate knowledge and handle complexity, to formulate judgements with incomplete or limited information, that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgement;
- ability to manage complex technical or professional activities or projects that can require new strategic approaches, taking responsibility for decision making.

Communication and Team-working

The learning process should enable **Master Degree graduates to demonstrate**:

- ability to use diverse methods to communicate clearly and unambiguously their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences in national and international contexts;
- ability to function effectively in national and international contexts, as a member or leader of a team, that may be composed of different disciplines and levels, and that may use virtual communication tools.

Lifelong Learning

The learning process should enable **Master Degree graduates to demonstrate**:

- ability to engage in independent life-long learning;
- ability to undertake further study autonomously.

2.4 Programme Management

(a) Accreditation agencies should confirm that engineering degree programmes, for which a HEI seeks accreditation, are managed to,

- achieve the programme aims;
- provide a teaching and learning process that enables students to demonstrate achievement of Programme Outcomes;
- provide adequate resources;
- monitor the rules for student admission, transfer, progression and graduation; and
- comply with internal quality assurance procedures.

b) The five standards below specify the key areas of programme management that must be evaluated if an agency is to be authorised to award the EUR-ACE® label. The guidelines that follow the standards are not prescriptive, but are intended to assist agencies and HEIs in meeting the standards. Programme managers are free to satisfy the standards in accordance with their own traditions and resources.

2.4.1 Programme Aims.

The aims of accredited programmes must reflect the needs of employers and other stakeholders. The programme outcomes must be demonstrably consistent with the aims.

The aims should take into account employment opportunities for graduates, potential developments in technology, the needs of employers, the wide range of applications of engineering, postgraduate opportunities for graduates, the mission of the university and the interests of students.

2.4.2 Teaching and Learning Process

The teaching and learning process must enable engineering graduates to demonstrate the knowledge, understanding, skills and abilities specified in the Programme Outcomes. The programme curriculum must specify how this is to be achieved.

The curriculum should give comprehensive information on all the modules in the degree programme, including the syllabus, the module learning outcomes, the methodology of teaching and learning, credit allocation, the method of module assessment, and any pre- requisite or co-requisite modules or other programme requirements. The curriculum should ensure that the module learning outcomes aggregate to the programme learning outcomes, including the effect of student choice of modules.

The learning process should be sufficiently flexible to accommodate different entry qualifications of students and different learning styles. If the programme includes time spent in industry or in another HEI, it should be assessed in the context of its contribution to the achievement of the Programme Outcomes.

The assessment of students should evaluate achievement of the specified module learning outcomes, and be both rigorous and fair. Wherever possible there should

be second marking of student work or moderation of assessments. Students should have an opportunity to redeem work that is assessed as being below standard, provided this can be done without compromising output standards.

Independent and external scrutiny of the assessment of students, and of the decisions on progress and completion, are effective in ensuring that output standards are maintained. The arrangements for any such scrutiny should be documented.

2.4.3 Resources

The resources to deliver the programme must be sufficient to enable the students to demonstrate the knowledge, understanding, skills and abilities specified in the Programme Outcomes.

The number, qualifications and experience of the teaching staff should be adequate to teach the programme to the standard specified in the Programme Outcomes. The programme should be supported by an effective team of technical and administrative staff. There should be arrangements in place for ensuring that staff are updated to use and apply new technologies and receive training as and when required.

The laboratory, computing and workshop facilities should have the equipment necessary to support the programme; the arrangements for safe access by students should ensure appropriate opportunities for student practical activities, particularly to support project work.

Student support services, including but not limited to, tutoring, library and other information resources, assistance with external placements, should be readily accessible by students.

The resources necessary to deliver the programme should be supported by an adequate budget.

2.4.4 Student admission, transfer, progression and graduation

The criteria for student admission, transfer, progression and graduation must be clearly specified and published, and the results monitored.

Students should be informed of the qualifications necessary to enter the programme and of the regulations necessary to progress to completion. The criteria for students to transfer into later stages of the programme should be clearly specified.

Records of student achievement provide essential information for the review and development of programmes. There should be arrangements for monitoring the progress of students through the programme against their entry qualifications, so

as to provide essential data for reviewing entry to the programme. In particular the number of, and reasons for, non-completions should be recorded. The overall performance of students in individual modules should be noted in order to identify assessment results that are significantly different from the norm.

2.4.5 Internal Quality Assurance

Accredited engineering degree programmes must be supported by effective quality assurance policies and procedures.

The programme should have quality assurance procedures that are consistent with the HEI quality assurance policy. It would be expected that there is a defined and documented procedure for reviewing the programme at regular intervals using all relevant data, including an evaluation of student achievement against the stated programme aims.

Feedback should be obtained in an agreed format from the students on an accredited programme on all taught modules in the programme, to enable the effectiveness of each module to be evaluated. There should be clearly understood arrangements for the day to day management of the programme to resolve any urgent and immediate problems.

Information about all aspects of the programme, including the quality assurance procedures, should be publicly available.

Appendix 2: PEESA III Meeting Surveys

Teil A: Overall Impression

A1. How satisfied have you been with this project event?

- ☐ Extremely satisfied
- ☐ Very satisfied
- ☐ Moderately satisfied
- ☐ Slightly satisfied
- ☐ Not at all satisfied

A2. What did you consider to be most valuable about the conference?

A3. What did you consider to be the least valuable about the conference?

Teil B: Meeting

B1. Were you content with the date of the meeting?

- ☐ Ja
- ☐ Nein

B2. What did you think about the venue/facilities?

- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☐ Fair
- ☐ Poor

B3. What your opinion about the number of participant?

- Everybody was there ☐
- Participation was okay ☐
- Some important people were missing ☐
- Not enough partners were present ☐

B4. What is your opinion about the accommodation?

- Excellent ☐
- Very good ☐
- Good ☐
- Fair ☐
- Poor ☐

B5. In how far did the conference provide a forum for exchange of information with other participants?

- There was plenty of exchange opportunity ☐
- We could exchange information on certain occasions ☐
- Echange with other partners was restricted to few situations ☐
- No helpful exchange with the partners was possible ☐

B6. What is your opinion of the quality of the presentations during the conference?

- The presentations were outstanding ☐
- Some of the presentations were really good ☐
- Several presentations were not really helpful ☐
- Most presentations did not help in any way ☐

B7. How did you like the social events during the conference?

- Excellent ☐
- Very good ☐
- Good ☐
- Fair ☐
- Poor ☐

B8. Do you have any other comments or suggestions about the conference?

B9. Are you of the opinion that the meeting contributed to the successful implementation of the PEESA III project?

Ja ☐

Nein ☐

B10. In how far did the meeting contribute to the successful implementation of the PEESA III project?

B11. Why did the meeting not contribute to the successful implementation of the PEESA III project?

Teil C: Organization

C1. What is your opinion about the information available online concerning the conference?

The information was very helpful and easily available ☐

the information was helpful but difficult to find ☐

the information online was not really helpful ☐

The information provided online was poor ☐

C2. **How was the quality of the material circulated by the organizers of the conference?**

- The material was really helpful ☐
- The material was good but arrived quite late ☐
- The material was okay ☐
- The material was not really helpful for the preparation of the conference ☐
- I did not receive any material ☐

C3. **How were the organizational arrangements for and during the event?**

- Excellent ☐
- Very good ☐
- Good ☐
- Fair ☐
- Poor ☐

C4. **Do you have any other comments or suggestions regarding the organization of the event?**

Appendix 3: PEESA III Bi-Annual Surveys

Teil A: General Impression of the Project

A1. **Do you think that currenty the PEESA III project is on a good way to achieve its envisaged objectives?**

- ☐ Ja
- ☐ Nein

A2. **What makes you think so?**

A3. **Why do you doubt it?**

A4. **In how far has the work in the general project been effective and efficient since the previous survey?**

- ☐ The work has been very efficient and effective
- ☐ The work was quite alright; we did make improvements
- ☐ We haven't really made a lot of progress during the past months
- ☐ A lot of work was invested by everyone but the progress is very limited
- ☐ Nobody invested sufficient time, therefore there hasn't been any progress at all
- ☐ Sonstiges

Sonstiges

A5. How do you consider the communication between the project partners?

- Brilliant, we are in constant exchange about the project ☐
- People do get in contact from time to time if need be ☐
- There seem to be partners that haven't talked to each other at all ☐
- Everybody is just doint his/her thing without communicating with anybody ☐

A6. What is your opinion of the project management so far?

- Excellent, the project management is always there to help and coordinates the loose ends ☐
- The project management really does a good job ☐
- Sometimes a central coordination and management could be more present than it currently is ☐
- The management really needs to improve if the project should succeed ☐

A7. In how far have the project meetings until now contributed to the success of the project?

- The meetings are extremely valuable for the progress of the project ☐
- The meetings are a necessity but do not disturb me much ☐
- The meetings are a waste of time ☐

A8. What makes you think so?

Teil B: Institutional part of the Project

B1. **Does your institution keep up with the originally planned schedule in the project?**

- ☐ We are even ahead of the plan
- ☐ We are working according to the schedule
- ☐ We are lagging behind a bit but it will be alright soon
- ☐ The schedule cannot be kept if we do not change something
- ☐ Sonstiges

Sonstiges

B2. **Do you think that the project actively contributes to the further development of your Institution and your degree programmes?**

- ☐ Yes, very much so
- ☐ Well, there is some profit, of course
- ☐ I don't really see an institutional profit at the moment
- ☐ I always thought this was a waste of time...

B3. **What is the most important contribution according to your experience?**

B4. **What makes you think so?**

Teil C: Future Perspective

C1. Are you optimistic that the project will be concluded successfully in time?

Ja ☐

Nein ☐

C2. In how far do you think your own/institutional part of the project need to be modified?

No modification necessary, everything is fine ☐

We could enhance our communication with the partners ☐

We need to invest more time to keep up with the original schedule ☐

Our administrative work need to be improved to keep up with the project demands (invoicing staff costs, travel expenses, etc.) ☐