Structure of the Self-Evaluation report and the Appendices

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Accreditation Criteria and Procedural Principles

For evaluating a study program, ASIIN applies documented criteria that have to be taken into account when a study program is designed.

Sources:

- European and national qualification frameworks as well as national laws and acts
- international standards for the engineering, informatics, natural sciences education
- educational standards for the single fields of engineering shared by a majority of HEI, practitioners and employers

General Criteria

…compulsory for all fields of engineering and natural sciences

+

Subject Specific Criteria

…supplementary, deviations permitted in well-founded cases

Structure of the Report –General requirements for programmes

ASIIN seal		
(Corresponding) ASIIN requirements		(Corresponding) European Standards and Guidelines (ESG)
2	**DEGREE PROGRAMME: CONTENT CONCEPT AND IMPLEMENTATION**	
2.1	**Objectives of the degree programme** The higher education institution has duly classified the final degree in academic* and professional terms. * Academic classification involves allocation to a level of higher education institution degree within the national or European Qualifications Framework.	
2.2	**Learning outcomes of the programme** The intended learning outcomes for the programme as a whole have been specified. They - are accessible to the relevant stakeholders, particularly lecturers and students, in a way that students are able to appeal to them for example in the scope of the internal quality assurance system; - reflect the level of the qualification sought; and are comparable to the exemplary learning outcomes set out in the appropriate ASIIN Subject-specific Criteria; - are achievable, valid, and reflect currently foreseeable developments in the subject area.	ESG 1.2:[6] Institutions should have formal mechanisms for the approval, periodic review and monitoring of their programmes and awards. […] The quality assurance of programmes and awards are expected to include: development and publication of explicit intended learning outcomes; […] participation of students in quality assurance activities. ESG 1.3: Students should be assessed using published criteria, regulations and procedures which are applied consistently. […] Student assessment procedures are expected to: […] be designed to measure the achievement of the intended learning outcomes and other programme objectives.

Structure of the Report – Formal Data

1 Formal Specifications

a) Name of the programme
b) Optional allocation to one of the two profiles application/research orientation (only for Germany)
c) For Master's programmes, classification as consecutive/further development (only for Germany)
d) Type (e.g. full/part-time, residential/distance learning, dual, intensive programme)
e) Final degree
f) Standard period of study and credit points gained (according to ECTS)
g) Expected intake for the programme
h) Programme start date within the academic year and first time the programme is/will be offered
i) Amount and type of fees/charges

Section B-1: Formal Data

Typical issues

➢ Award of credit points not conform to ECTS standards

➢ Target enrolment does not seem to correspond with capacity and/or demand

Structure of the Report – Degree Programme I

2 Degree Programme: Concept and Implementation

1. Aims/Learning Outcomes of the programme of studies
2. Learning outcomes of the modules/module objectives
3. Job market perspectives and practical relevance
4. Admissions and entry requirements
5. Curriculum/content

2.1 Aims of the programme of studies

The higher education institution has duly classified the final degree in academic* and professional terms.

* Academic classification involves allocation to a level of higher education institution degree within the national or European **Qualifications Framework**.

2.2 Learning outcomes of the programme

The intended learning outcomes for the programme as a whole have been specified. They

- are **accessible** to the relevant stakeholders,
- reflect the **level** of the qualification sought (knowledge, abilities and competences)
- are **achievable, valid** and reflect currently foreseeable developments

The intended learning outcomes reflect the orientation framework for the subject concerned as described in the relevant ASIIN Subject-Specific Criteria ; any divergences must be explained.

The **name** of the programme reflects the intended learning outcomes and also the langue of programme delivery.

[Documentation: Objectives Matrix, Module Handbook]

Objectives Matrix

"Objectives are transparent, reasonable are supported by the content"

Example of an
Objectives Matrix

Superordinate Educational Objectives (by degree programme)	Learning Outcomes - Knowledge - Skills - Competences	Corresponding Modules / Module Objectives - Knowledge - Skills - Competences

Objectives Matrix and ASIIN Subject-Specific Criteria

ASIIN SSC	Intended Learning Outcomes of the degree programme	Corresponding Modules
Knowledge and Understanding		
Graduates have in particular		
gained a broad and sound knowledge in mathematics, natural sciences and engineering enabling them to understand the complex phenomena peculiar to electrical engineering / information technology;		
gained an understanding for the broader multidisciplinary context of Engineering Sciences.		
Engineering Analysis		
Graduates are able		
to select and apply actual methods of modelling, calculating, and testing concerning their field of specialization;		

Example of Objectives Matrix

Overall Programme Outcomes (excerpt)	Detailed Learning Outcomes (excerpt)	Modules (excerpt)
- To give knowledge, skills and competencies required in R&D, process and equipment design, process operation, quality control, utilization of waste and by-products and promotion of safety, environmental protection and health. - To prepare students for continuation of their studies to higher degrees in chemical engineering or chemical technology.	**Knowledge and understanding:** The graduates are familiar with the phenomena in chemical engineering, such as chemical reactions and chemical kinetics, energy, mass and momentum transport, thermodynamic equilibrium, phase changes, mixing and fluid dynamics and the most important scientific theories explaining them.	All topics relevant to Chemical Engineering (Mathematics, Physics, Chemistry, Kinetics, Thermodynamics, Fluid Dynamics, Heat and Mass Transfer, Unit Operations, …)
	Engineering Design and Development: The graduates know the typical stages and principles of process development and design. The graduates can calculate material and energy balances for processes and apply simulation programs in this task. The graduates can define control, measurement and analysis requirements of the process to be designed.	Engineering Drawing, Process and Plant Design, Process Simulation, Process Control, Seminar on Process Design, …

Section B-2: Degree Programmes: content concept & implementation

Typical issues

➢ Lack of correspondence between programme educational objectives/learning outcomes, and module learning outcomes

➢ Learning outcomes are in fact no learning outcomes

2.3 Job market perspectives and practical relevance

There is a **demand** on the labour market for graduates who possess the intended learning outcomes (competences), or this demand is expected to arise.

The competences as presented thus allow graduates to work in a sphere appropriate to the qualification.

Overall, the training offered is appropriately linked to professional **practice** (external projects, laboratories, placements, etc.).

2.4 Admissions and entry requirements

Transparent procedures and quality criteria for the admission to the programme (designed to facilitate the achievement of the learning outcomes)

Rules to enable flexibility in the admission. Compensating missing prerequisites should not impact the level of the programme.

Admissions and entry requirements ensure **equally treatment**.

Regulations cover the recognition of activities completed externally. They ensure that the learning outcomes are achieved at the intended level.

Rules specify that documentation of any **pre-study practical placement** must be presented within three semesters.

2.5 Curriculum/content

The curriculum that is in place makes it possible to achieve the intended learning outcomes by the time the degree is completed.

The objectives and content of the individual modules are **coordinated** in order to avoid any unintended overlaps.

[Documentation:

Objectives Matrix, cf. p. 46

Module Handbook, cf. p. 48

Section B-2: Degree Programmes: concept and content

Typical issues

➢ Demand for programmes and graduates does not seem to rely on concrete data / survey of labour market

➢ Criteria and process for selection/admission are not or too vaguely defined

➢ Curriculum does not seem to support the programme learning outcomes, e.g.:

  – important knowledge/skill areas are not covered on the required level,

  – no systematic practical application of theoretical knowledge

  – teacher-centered forms of teaching and learning do not support social skills (communication, team work…)

Structure of the Report – Degree Programme II

3 Degree Programme: Structures, Methods and Implementation

1. Structure and modularity
2. Workload and credit points
3. Educational methods
4. Support and advice

3.1 Structure and modularity

The programme is modular.

The range of modules is organised so as to ensure that it is possible to commence the programme in every semester when admissions take place.

The **size and duration** of the modules allow students to combine them flexibly and facilitates the transfer of credits. The programme concept allows for time to be spent at another higher education institution or on a practical placement without loss of time.

Master's degree programmes do not incorporate any modules at undergraduate level.

3.2 Workload and credit points

Student workload is set at a level that avoids structural pressure on training quality and requirements for the level of study.

Projected time budgets are realistic.

A **credit point** system is in place for all compulsory parts of the programme. All the work done by students is appropriately represented within it (25–30 h/1CP). 60 credit points are awarded each year, 30 per semester.

Credit points are only given if the learning objectives of a module have been achieved.

To awarding credits for **practical components,** the practical component is meaningfully integrated into the rest of the curriculum; it is supervised by teaching staff.

Section B-3: Degree programme: structures, methods and implementation

Typical issues

➢ Credit points are not awarded based on student workload

➢ Credit points are awarded simply for attendance

➢ The amount of allocated credit points does not match with expected workload, based on content and learning outcomes

➢ Student workload per term is too high, too many contact hours leave not enough room for individual study

➢ Modules are not correctly defined and consist either of individual lectures (too small) or cover whole parts of a discipline (too large)

➢ Modularisation does not support student mobility

3.3 Educational methods

The teaching methods and tools support the achievement of the learning outcomes at the intended level by the time the degree is completed.

Besides compulsory components, there is a sufficient range of **elective** and compulsory elective subjects to allow students to develop an individual focus.

The ratio of contact hours to **self-study** has been designed to ensure the achievement of the defined goals.

The available time allows students sufficient opportunities to carry out independent academic work.

3.4 Support and advice

Sufficient resources are available for offering individual support, supervision and advice to students.

The advisory methods envisaged (subject-specific and general) are suitable for supporting students to achieve the learning outcomes and complete their degree within the normal period of study.

There is a corresponding range of support available for **different student groups**.

Section B-3: Degree programme: structures, methods and implementation

Typical issues

➢ teacher-centered forms of teaching and learning do not support social skills (communication, team work...)

➢ No unbiased support for students or students are not aware of it

4. Examinations (1)

The type, organisation and distribution of examinations are designed to **support the attainment of the intended learning outcomes**.

Students have sufficient time to prepare for examinations.

It must be possible to move directly from a Bachelor's degree to a Master's without loss of time.

The form of examination is **laid down** in the module description for each module.

The examination **organisation** guarantees examinations that accompany study and avoids causing extensions to the period of study.

4. Examinations (2)

The evaluation **criteria** are transparent for lecturers and students and focus on achieving the learning outcomes.

The degree programme ends with a **final thesis or equivalent**.

It is checked whether students are capable of orally discussing a problem from their specialist area and how it might be solved, placing it in the context of the subject.

The supervision of final thesis carried out externally is subject to strict regulations ensuring its meaningful incorporation within the curriculum.

Section B-4: Examinations: system, concept and organisation

Typical issues

➢ No variety in forms of assessments – insufficient correspondence to learning outcomes

➢ Technical problems concerning regulations & formalities

Structure of the Report – Resources

5 Resources

1. Staff involved
2. Staff development
3. Institutional environment, financial and physical resources

5.1 Staff involved
5.2 Staff development

The **composition and (specialist) training** of the teaching body ensure that the intended learning outcomes are achieved.

The **research and development activities** of teaching staff are such as to ensure that the educational level sought is attained.

The available contact hours (overall and for individual lecturers) are sufficient for teaching and student supervision.

[Documentation: Staff Handbook, cf. p. 49]

Opportunities for further development of subject-relevant knowledge and teaching skills are available for lecturers.

5.3 Institutional environment, financial and physical resources

Resources form a sustainable basis to achieve the intended learning outcomes (at least as long as the accreditation is valid).

The **infrastructure** (e.g. laboratories, library, and IT provision) meets the qualitative and quantitative requirements of the degree programme.

Any **cooperation** required within the higher education institution is sufficient for the purpose and subject to definitive arrangements.

It is made clear which collaborations from outside the institution are used for the programme and to train students. These collaborations are also sufficient for the purpose and subject to definitive arrangements.

The organisation and **decision-making structures** are suited.

The organisation is able to react to problems, solve them and make up for shortfalls (e.g. staffing, financing, numbers of incoming student) without compromising students' opportunity to complete the degree in the standard time period.

Section B-5: Resources

Typical issues

➢ Insufficient integration of international perspective does not prepare graduates for career in science or industry

➢ Number and qualification of teaching staff

➢ No provision for training of didactic competences of teaching staff

➢ Insufficient/unclear financial resources and infrastructure for delivery of programme learning outcomes

Structure of the Report – Quality Management

Quality Management: Further Development of Degree Programmes

1. Quality assurance and further development

2. Instruments, methods and data

   (achievement of learning outcomes, average study time, mobility, graduates, employment etc.)

6.1 Quality assurance and further development

As a basis for (further) developing its degree programmes, the higher education institution has developed and documented its understanding of quality in studies and teaching.

A quality assurance concept is in place. It is designed to ensure the continual improvement of the degree programme. It enables the HEI to:

- ascertain any failure to achieve goals;

- check on the extent to which the set goals are achievable and reasonable; and

- draft suitable **measures**.

Students and other stakeholders participate in quality assurance activities.

Mechanisms and scopes of responsibility have been determined.

Section B-6: Quality Management: further development of degree programmes

Typical issues

➢ No systematic evaluation (i.e. student feedback) on the course/module or programme level

➢ No processes to follow up on graduates' further careers

➢ No incentives for improvement

➢ No or insufficient processes for identifying and following up on problems

➢ Measures to support development of „quality culture"?

6.2 Instruments, methods and data (1)

Suitable methods and instruments are used to ensure that the quality of degree programmes is maintained and further developed.

For example:

- student history data (such as duration of studies, dropout rate), information on student-teacher ratios
- examination statistics
- (teaching) evaluations
- average actual workload for the individual modules
- survey results, feedback sessions with students

6.2 Instruments, methods and data (2)

The data gathered and evaluated by the higher education institution as part of its quality assurance system fulfil the following **functions**, among others:

- Achievement of **intended learning outcomes** in the standard duration of study
- Student **mobility**
- information on student **employment**
- Measures to **prevent unequal treatment**
- **recognise weaknesses and correct them**

Section B-6: Quality management /advancement of degree programmes

Typical issues

➢ Data indicates high drop-out or failure rate

➢ Data indicates that students do not manage to graduate within the regular programme duration

➢ Data indicates that students often fail certain modules/courses or drop out

➔ In each of these cases: Has the problem been identified, have measures been taken?

➢ Exam questions, student project work and final theses not conform with the contents and level of intended learning outcomes

Documentation & Transparency

1. Relevant regulations
   (exam, admission, fees, etc.)

2. Diploma Supplement

7.1 Relevant regulations

The regulation(s) for the programme should cover all key issues for **admissions**, the **operation** of the programme and **graduation**.

The relevant regulations have been subject to a legal check and are in force.

The regulations are accessible for consultation.

7.2 Diploma Supplement

The issue of an **English** language Diploma Supplement is mandatory.

The Diploma Supplement allows interested parties to gain insight into the structure, content and level of the successfully completed degree, as well as an individual's performance.

The Diploma Supplement indicates how the **final mark** was calculated (including weighting of marks) so that outsiders can clearly see how each component was incorporated into the final degree.

In addition to the final mark, **statistical data** should be provided in accordance with the **ECTS User Guide** to assist in interpreting the individual degree.