EURO-INF

FRAMEWORK STANDARDS

AND

ACCREDITATION CRITERIA

FOR

INFORMATICS DEGREE PROGRAMMES

as adopted by the Executive Board of

EQANIE

European Quality Assurance Network for Informatics Education

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EQANIE

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Preamble

This document is intended to provide a means for reviewing the quality of higher education informatics* qualifications in the European Higher Education Area (EHEA), in a way that encourages the dissemination of good practice and a culture of continuous improvement of informatics degree programmes. They have been developed within the Euro-Inf Project, the principal aim of which is to develop a framework for the accreditation of informatics degree programmes in the EHEA. Given the great diversity of informatics education across Europe, the attempt to create framework standards comprising all areas of the informatics discipline appears ambitious. The Euro-Inf Framework is thus intended as a broad common denominator, or overarching reference point, for the variety of informatics degree programmes. In order to allow for possible inclusion of existing informatics specialisations within European Higher Education Institutions (HEIs), the framework must be formulated in rather general terms. The Standards and Criteria contained in this document represent a quality threshold. All graduates of degree programmes assessed against the Euro-Inf Standards are expected to achieve the programme learning outcomes stated therein.

Principal aim

1. The objective of the Lisbon strategy to create a "knowledge-based society", and thus to enhance competitiveness and employability throughout Europe requires reform of higher education systems within Europe. In this context, the Bologna Process aims at establishing a European Higher Education Area by 2010. The European Commission is supporting projects aiming to contribute to this reform process. As outlined by the European Ministers of Education in Berlin in September 2003, quality of higher education is "at the heart of the setting up of a European Higher Education Area". Informatics is certainly to be ranked as a strategically important discipline given the new global competitive challenge Europe faces. It is thus particularly important in the informatics area to develop quality standards for Higher Education programmes and to create and disseminate mechanisms to encourage improvement of quality of education.

Background

2. Accreditation of an informatics degree programme is the primary result of a process used to ensure the suitability of that programme as providing the education base for the entry route to professional practice. It involves a periodic assessment against accepted standards of informatics higher education. Independent, third-party Accreditation is essentially based on a peer review process, undertaken by appropriately trained and independent teams comprising peers from both academia and informatics practice, in

Accreditation

accordance with agreed principles. It is important that Accreditation processes go beyond judgement on the achievement of a minimum standard, and effectively promote the idea of continuous improvement of the quality of Higher Education programmes.

3. This document can be used in both the design and the evaluation of degree programmes in all specialisations of informatics. Accreditation Criteria are expressed as broad generic programme learning outcomes that describe in general terms the capabilities required of graduates from accredited *First Cycle* and *Second Cycle* informatics degree programmes, as defined in the Framework for Qualifications of the European Higher Education Area (cf. § 7 of this section). Consequently, they can be interpreted and elaborated by users to reflect the specific demands of different cycles and specialisations.

Standards

4. Although this document is expressed in terms of accrediting degree programmes, it can also be used in relation to recognition of agencies that accredit (or intend to accredit) informatics programmes, in assessing the consistency of their rules and standards with the requirements of this document ('meta-accreditation'); alternatively, it can be used as a guideline for the design and development of Standards and Procedures for new Accreditation agencies. The Standards and Criteria are intended to be widely applicable and inclusive, in order to recognise the diversity of degree programmes around Europe that provide the education necessary for a graduate to enter work as an ICT (informatics) professional.

Application fields

5. This document describes the programme (learning) outcomes of an accredited Higher Education programme but allow for considerable variation in the emphasis of individual programmes. The development of new programmes of study or of new and different ways of delivering the curriculum is to be encouraged. HEIs are also encouraged to provide incentives for excellence in programme development and refinement but it is left to the responsibility of the HEI as to how these incentives are provided. This document does not address conditions of access to degree programmes: these are handled by HEIs, in accordance with national regulations and/or requirements including new and innovative programmes.

HEI Autonomy

6. Throughout this document, the term "informatics graduate" is used to describe someone who successfully completes an accredited degree programme in informatics. It is for the appropriate authority in each country to decide if a qualification, accredited or not, is sufficient for professional practice in ICT (the field of informatics) in that country, or if further education, training or industrial

Professional recognition

experience are necessary. The Euro-Inf accreditation label will assist such decisions, and particularly those that involve transnational recognition.

7. The development of the programme learning outcomes has been informed by the report 'A Framework for Qualifications of the European Higher Education Area' agreed by the Ministerial Conference in Bergen in May 2005, and by the Dublin Descriptors referred to therein. It is also assumed that all programmes to be accredited fulfil the criteria set out in the ENQA 'Standards and Guidelines for Quality Assurance in the European Higher Education Area' and also agreed by the Bergen Conference. Furthermore, it has been informed by the European Qualifications Framework for lifelong learning proposed by the European Commission for a Recommendation of the European Parliament and of the Council.

Relevant official documents

8. Further explanations on background and objectives of the Euro-Inf Project can be found in the **Annex**. It also contains a glossary where terms used in this document are explained and clarified.

Annex

1. Programme Outcomes for Accreditation

The programme outcomes can be described as quality standards for competences, skills and knowledge graduates of an accredited course would be expected to have achieved as the education base for practising their profession or for post-graduate studies. It is important that the programme outcomes vary in extent and intensity in accordance with the differing objectives of First and Second Cycle degree (FCD and SCD) programmes. They have been ranged in the following four categories:

- Underlying Conceptual Basis for Informatics

- Analysis, Design and Implementation

- Technological and methodological Skills

- Other Professional Competences

For each of the mentioned categories expected programme learning outcomes for informatics programmes have been formulated.

The first category "Underlying Conceptual Basis for Informatics" identifies capabilities that are essential to satisfying the other learning outcomes. Furthermore, it identifies which knowledge is required to any student independently from the specific informatics specialisation and application context. Subsuming the aspects "Analysis, Design and Implementation" in a single category appears worthwhile because they describe the basic steps of a work cycle. The category "Technological and Methodological Competences" refers to the expected ability of a graduate to work to combine and abstract his/her technical skills to solve problems involving aspects of a wider, technological context. Thus, he/she is able to use appropriate methods and material to achieve an industrial objective. Social or soft competences, listed under the category "Other Professional Competences" are crucial to communicate information, ideas, problems and solutions. Besides the so-called soft skills, the category refers to project management skills and the knowledge of disciplines and those ancillary principles that are relevant to the working environment of the graduates' specialisation.

The same arrangement of categories is maintained for the programme learning outcomes of Second Cycle Degree (SCD) programmes. They apply in addition to the competences described for graduates of FCD programmes. Although all four outcome categories are used to describe expected outcomes of both FC and SC programmes, there are important differences in the requirements at the two levels. These differences in the levels of First and Second Cycle accredited informatics programmes should inform the interpretation of the programme learning outcomes by HEIs and by auditing teams. For instance, whereas First Cycle graduates should be able to formalise and specify real-world problems whose solution involves the use of informatics, Second Cycle graduates are, in addition, expected to have demonstrated their ability to specify and complete informatics tasks that are complex, incompletely defined or unfamiliar.

No restriction is implied or intended by this document in the design of programmes to meet the specified programme learning outcomes. For example, the requirements of more than one learning outcome could be satisfied within a single module or unit such as project work. Similarly, it is possible that some programmes are designed such that the requirements of the Other Professional Competences category are taught and assessed entirely within modules or units designed to satisfy the requirements of other learning outcomes, whereas in other programmes the Other Professional Competences requirements are taught and assessed in modules or units designed specifically for this purpose.

1.1. Learning Outcomes for First Cycle Degree (FCD) Programmes

Underlying Conceptual Basis for Informatics – First Cycle Degree

Graduates having completed a First Cycle degree should have demonstrated the following :

- knowledge and understanding of the key aspects and concepts of their informatics discipline[1], including some at the forefront of that discipline
- an awareness of the wider spectrum of informatics disciplines

Analysis, Design and Implementation – First Cycle Degree

Graduates having completed a First Cycle degree should have demonstrated the following :

- insight into possible application fields of informatics
- an ability to become familiar with new informatics applications
- appreciation of the need for deep domain knowledge in certain application areas; appreciation of the extent of this in at least one situation
- formalisation and specification of real-world problems whose solution involves the use of informatics
- understanding the complexity of informatics problems and the feasibility of their solution
- knowledge of appropriate solution patterns
- an ability to select and use relevant analytic and modelling methods
- an ability to describe a solution at an abstract level
- an ability to apply their knowledge and understanding to the design of hardware and/or software which meets specified requirements
- knowledge of all phases of the software life cycle for building new, and maintaining and commissioning existing, software systems
- selection and usage of appropriate process models and programming environments for projects involving traditional applications as well as emerging application areas
- modelling and design of human-computer interaction
- creation and thorough testing of software systems
- familiarity with existing software and application systems and use of their elements

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[1] As included in the standards that served as references to identify the educational objectives of the programme.
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Technological and Methodological Skills – First Cycle Degree

Graduates having completed a First Cycle degree should have demonstrated the following :

- an ability to combine theory and practice to complete informatics tasks

- an ability to undertake literature searches, and to use data bases and other sources of information

- the ability to design and conduct appropriate practical investigations (e.g. of system performance), to interpret data and draw conclusions

- awareness of relevant state-of-the-art technologies and their application

- recognition of the need for, and engagement in life-long learning

Other Professional Competences – First Cycle Degree

Graduates having completed a First Cycle degree should have demonstrated the following :

- an ability to complete tasks from different application areas while taking into account the existing technical, economical and social context

- consideration of the economic, social, ethical and legal conditions expected in informatics practice

- awareness of project management and business practices, such as risk and change management, and understanding of their limitations

- an ability to function effectively as an individual and as a member of a team

- an ability to organise their own work independently

- an ability to formulate an acceptable problem solution using informatics in a cost-effective and time-efficient way

- essential knowledge of estimating and measuring cost and productivity

- an ability to communicate effectively with colleagues, (potential) users and the general public about substantive issues and problems related to their chosen specialisation; communication competence to present ideas and suggested solutions convincingly in written and verbal form

1.2. Learning Outcomes for Second Cycle Degree (SCD) Programmes

Underlying Conceptual Basis for Informatics – Second Cycle

Graduates having completed a Second Cycle degree should have demonstrated the following:

- deep knowledge and understanding of the principles of informatics
- either a deepened knowledge of a chosen specialisation or broadened knowledge of informatics in general
- critical awareness of topics at the forefront of their specialisation

Analysis, Design and Implementation – Second Cycle

Graduates having completed a Second Cycle degree should have demonstrated the following:

- specification and completion of informatics tasks that are complex, incompletely defined or unfamiliar
- formulation and solution of problems including new and emerging areas of their discipline
- application of the state of the art or innovative methods in problem solving, possibly involving use of other disciplines
- an ability to think creatively to develop new and original approaches and methods

Technological and Methodological– Second Cycle

Graduates having completed a Second Cycle degree should have demonstrated the following:

- integration of knowledge from different disciplines
- comprehensive understanding of applicable techniques and methods for a particular specialisation, and of their limitations
- awareness of the limits of today's knowledge and the practical application of the state-of-the-art technology
- knowledge and understanding of informatics to create information models, complex systems and processes
- an ability to contribute to the further development of informatics

Other Professional Competences – Second Cycle

Graduates having completed a Second Cycle degree should have demonstrated the following:

- independent work in their professional field
- an appreciation of the skills required to work with and lead a team that may be composed of people from different disciplines and levels
- effective communication skills, possibly also in international contexts
- an understanding of the principles of project, risk and change management and the ability to apply methodologies and processes to manage projects and to mitigate risks

2. Guidelines for Programme Assessment and Programme Accreditation[1]

2.1. Guidelines for the Criteria and Requirements of Programme Assessment

Each informatics programme for which a Higher Education Institution seeks accreditation or reaccreditation against Euro-Inf Standards must be consistent with legal and national requirements and have in place:

- programme educational objectives consistent with the mission of the Higher Education Institution, the priorities of the relevant Department(s) and the needs of relevant stakeholders (such as students, relevant employers, informatics associations or societies, etc.) as well as programme learning outcomes consistent with the programme educational objectives and the specified programme learning outcomes for accreditation (cf. Sections 1.1 and 1.2)

- a curriculum and related processes which ensure achievement of the learning outcomes

- academic and support staff, facilities, financial resources and any cooperation agreements with industry, research institutions and/or other Higher Education Institutions necessary to deliver the learning outcomes

- appropriate forms of assessment which can validly attest to the achievement by graduating students of the programme learning outcomes

- a management system able to ensure the systematic achievement of the learning outcomes and the continual improvement of the programme.

Correspondingly, the guidelines for a program assessment submitted for accreditation must at least specify the following items:

a) Relevant Information on the HEI Offering the Programme

b) The Programme Needs, Objectives and Learning Outcomes

c) Relevant and Effective Educational Processes

d) Appropriate Resources and Partnerships

e) Adequate Assessment of the Educational Process and

f) An Effective Management System.

The detailed criteria to be assessed within this framework and the associated "requirements" listed in the following Table in the form of questions, valid for both FCD and SCD programmes, should be addressed when assessing an informatics programme for accreditation.

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[1] In general, assessment procedures should be in line with the Standards and Guidelines for Quality Assurance in the European Higher Education Area, The European Association for Quality Assurance in Higher Education (ENQA), Helsinki, 2005.
URL: www.bologna-bergen2005.no/Docs/00-Main_doc/050221_ENQA_report.pdf (2007-08-10).
Euro-Inf Framework Standards and Accreditation Criteria for Informatics Programmes

Guidelines for Assessment	Criteria to be Assessed	Requirements	What the Self-Assessment Report (cf. Section 3.1) Should Give Evidence of and the Auditing Team Should Check
1. Needs, Objectives and Outcomes	1.1 Needs of the Stakeholders	Have the needs of relevant stakeholders (such as students, potential employers, informatics societies, etc.) been explicitly identified? Do the graduates have clear labour market prospects?	Modes and periods of relationships with the stakeholders. Needs identified for each of the identified stakeholders. Placement of graduates on the labour market.
	1.2 Educational Objectives	Are the programme educational objectives consistent with the mission of the Higher Education Institution (HEI) and priorities of the HEI Department? Have relevant stakeholders been involved in formulating the objectives (such as students, employers, informatics societies, etc.)? Are the programme educational objectives accessible to the relevant stakeholders? Are the programme educational objectives feasible, capable of implementation and valid? Are the programme educational objectives oriented towards currently foreseeable specialist developments? Which other (national, regional) standards have served as references to identify the educational objectives of the subject of study?	Programme educational objectives vs. mission of the HEI, priorities of the HEI Department and needs of the stakeholders. Transparency and publicity of the programme educational objectives. Existing standards that can be drawn on when identifying the fundamental principles underlying the subject of study (e.g. specifications issued by German Accreditation Agency Specialised in Accrediting Degree Programs in Engineering, Informatics, the Natural Sciences and Mathematics; British Computer Society; Gesellschaft für Informatik; Association for Computing Machinery, GRIN (Italian Association of Informatics Professors) etc.).
	1.3 Programme Outcomes	Do the programme outcomes (knowledge, skills, competences) acquired by the graduates cover the programme outcomes specified in the EURO-INF Standards for accreditation? (cf. Section 1)	Analysis of how programme outcomes acquired by the graduates correspond to the specified EURO-INF programme learning outcomes for accreditation (cf. Section 1).
		Are the programme learning outcomes (knowledge, skills, and competences) acquired by the graduates consistent with the programme educational objectives?	Analysis of how far programme learning outcomes acquired by the graduates correspond to the programme educational objectives formulated by the HEI in the self-assessment report.
2. Educational Process	2.1 Planning	Is the curriculum adequate to enable the achievement of the defined programme educational objectives? Does the curriculum cover an educational level that corresponds to the targeted degree? Does the curriculum provide incentives for excellence? Do teaching staff, students and stakeholders such as potential employers consider the curriculum to be well-designed with respect to the targeted objectives?	Curriculum (syllabus, ECTS credits, credits for course work and personal study), its transparency and publicity. Definition/description of module' characteristics (credits, contents, specific learning outcomes, assessment methods of individual modules), their transparency and publicity. Integration of professional practice (external practical experience, laboratories, projects, etc.). Final examination, thesis, project, etc. Correspondence of curriculum and modules' characteristics to the

Euro-Inf Framework Standards and Accreditation Criteria for Informatics Programmes

Guidelines for Assessment	Criteria to be Assessed	Requirements	What the Self-Assessment Report (cf. Section 3.1) Should Give Evidence of and the Auditing Team Should Check
		Does the curriculum encompass a sound didactic concept taking into account student needs such as challenge, stimulation, and excitement? Is the content of the curriculum oriented towards expected specialist developments and existing standards for the subject? Does the HEI support students' mobility?	programme objectives. The teaching methods and didactic means used to support the attainment of the objectives. Planning of the delivery. Teaching methods and techniques (fulltime, part time, parallel to or integrated in professional work, use of multimedia or telematics devices, etc.). Measures to promote excellence. Measures to take into account currently foreseeable specialist developments. Measures to promote the mobility of students on the programme.
	2.2 Delivery	Is teaching delivered according to planning?	Compliance of the delivery with the plans. Analysis of students' evaluation of taught modules. Analysis of students' and tutors' evaluation of external practical experiences. Analysis of students' mobility.
		Are counselling and support-workload provided for the students adequate to enable achievement of the modules' specific learning outcomes?	Number of staff and their workload for counselling and support to the students.
	2.3 Learning Assessment	Have examinations, projects and other assessment methods been designed to evaluate the extent to which students can demonstrate achievement of the learning outcomes of individual modules and programme outcomes throughout the programme and at its conclusion?	Examination papers and coursework (exam. papers and samples of assessed coursework, continuous assessments, project reports, to be presented during the visit). Written examinations / final theses (to be presented during the visit) Transparency and publicity of the standards and rules concerning the assessment of student performance.
3. Resources and Partnerships	3.1 Academic and Support Staff	Is the academic staff adequate to enable accomplishment of the programme outcomes? Is the academic staff deployed effectively in order to deliver an excellent curriculum? Does the HEI provide support for students learning activities at home (e.g. e-tutorials, accessibility of academic staff via email)?	Composition, competence and qualification of the teaching staff, and explanation of their 'adequacy'. Absolute and relative number of teaching staff (ratio student/full time teaching staff). Research (publications, participation in research projects, participation in conferences, etc.) and/or professional activities and consulting work of the teaching staff.
		Is the technical and administrative support staff adequate to enable achievement of the programme outcomes?	Number, composition, competence and qualification of the technical-administrative support staff.
	3.2 Learning environment	Are the lecture facilities adequate to enable the programme outcomes to be accomplished? Do they create a positive learning environment?	Lecture facilities and associated equipment available to students and explanation of their 'adequacy'.

Euro-Inf Framework Standards and Accreditation Criteria for Informatics Programmes

Guidelines for Assessment	Criteria to be Assessed	Requirements	What the Self-Assessment Report (cf. Section 3.1) Should Give Evidence of and the Auditing Team Should Check
		Are research and development activities meaningfully integrated into the programme?	
		Are the computing facilities and course materials adequate to enable the programme outcomes to be accomplished?	Computing facilities available to students (e-learning tools, desktops/laptops, video projectors etc.).
		Are any laboratories, workshops and associated equipment needed for the programme adequate to enable the programme outcomes to be accomplished?	Laboratories, workshops and associated equipment available to students.
		Are the libraries and associated equipment and services adequate to enable programme outcomes to be accomplished? Do the libraries and associated equipment create a positive learning environment? Do conditions of, and access to, learning facilities, equipment and services support an effective learning process?	Libraries and associated equipment and services available to students. Academic guidance measures for prospective and existing students. Explanation of their adequacy.
	3.3 Financial Resources	Are the available financial resources adequate to enable the programme outcomes to be accomplished? Are available financial resources used effectively in creating a positive learning environment?	Budget for teaching and support staff. Budget for running and upgrading facilities. Budget for training. Explanation of adequacy in relation to numbers on programme.
	3.4 Partnerships	Do the partnerships the HEI and the programme are participating in contribute to enabling the programme outcomes to be accomplished and facilitate the mobility of the students?	Local / regional / national / international industrial partnerships and cooperation agreements. Local / regional / national / international partnerships and cooperation agreements with research institutions. Local / regional / national / international cooperation agreements, programmes or measures with other Higher Education Institutions.
4. Assessment of Educational Process	4.1 Students	Do the students seeking enrolment in the programme have the right knowledge and attitudes to enable achievement of the programme outcomes in the expected time?	Entrance requirements. Admission requirements *(only for programmes with admission quota arrangements).*
		Do the results related to the students' study progress attest to the achievement of the programme learning outcomes in the expected time?	Students' study progress. Learning levels achieved. Success rates / retention rates, drop out rates and time taken to complete the programme. Number of students commencing each degree programme.
	4.2 Graduates	Do graduates enter an occupation corresponding to their qualification?	Number of graduates (preliminary / intermediate / final examinations passed).

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Guidelines for Assessment	Criteria to be Assessed	Requirements	What the Self-Assessment Report (cf. Section 3.1) Should Give Evidence of and the Auditing Team Should Check
			Time taken to enter the workforce. Match between employment and education received.
		Do stakeholders (graduates, employers, etc.) confirm the achievement of the programme's educational objectives?	Graduates' opinions on the education received. Opinion of employers on the graduates' education.
5. Management System	5.1 Organisation and Decision-making Processes	Are the HEI's and programme's organisation and decision-making processes adequate for enabling the programme outcomes to be accomplished?	Documentation on HEI's and programme's organisational structures and decision-making processes (statutes, organisational charts, management of organisational processes, etc.). Positions of responsibility for the various actions to direct and control the educational process, their relationships of link and dependence. Existence and use of effective co-ordination mechanisms of decision-making processes, both horizontal and vertical. Existence and use of reliable information sources for decision-making. Some kind of summative statement explaining compliance.
	5.2 Quality Assurance System	Are the HEI's and programme's Quality Assurance Systems effective in enabling the achievement of the programme outcomes? Is its quality assurance approach reviewed regularly? Is this concept actually being implemented and used to make improvements? Is it capable of identifying deviations from the programme educational objectives? Does it enable the revision of the educational objectives? Is information on graduate placements, where applicable, systematically collected and evaluated?	HEI's and programme's policy and procedures for quality assurance. Evaluation during educational process (e.g. student surveys). Evaluation of the success of the degree programme (e.g. Data and statistics from graduate surveys, student surveys, studies on graduate employment).
		Are the delivery process', students' and graduates' results analysed and used to promote continual improvement of the programme?	Existence of a regulated and systematic process for continual programme review, development and improvement based on the analysis of the delivery processes, students' and graduates' results. Results of improvement actions.
		Are needs, objectives and outcomes, educational process, resources and partnerships, management system periodically re-examined?	Existence of a regulated, systematic and periodic process for re-examining needs objectives and outcomes, educational process, resources and partnerships, management system. Results of re-examination activity.

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2.2. Guidelines for the Evaluation of Individual Requirements

When assessing the achievement of individual requirements for the programme review, a scale with at least the following three categories should be used:

a. Acceptable without reservation

b. Acceptable with adjustment requirements

c. Unacceptable.

The outcome "acceptable without reservation" should be awarded to requirements, which have been fully met, even if improvements are still possible.

The outcome "acceptable with adjustment requirements" should be awarded to requirements, which have not been fully met, but are judged to be achievable within a reasonable period of time (as a rule no longer than half the regular full period of accreditation).

The outcome "unacceptable" should be awarded to requirements, which have not been met or fully met, and are judged not to be achievable within a reasonable period of time.

2.3. Guidelines for the Criteria of Programme Accreditation

An informatics programme is accredited if it fulfils the requirements specified under Section 2.1.

To record the assessment outcome concerning the overall achievement of the requirements, a scale with at least the following three points should be used:

a. Accredited without reservation

b. Accredited with adjustment requirements

c. Not accredited.

Accreditation without reservation, with possible specification of recommendations for the improvement of the programme, should be awarded to programmes for which all requirements are judged to be "acceptable without reservation". In this case, accreditation should be awarded for the full period of accreditation (which should not exceed six years).

Accreditation with adjustment requirements, with specification of adjustments and the time in which these must be carried out, should be awarded if one or more requirements are judged to be "acceptable with adjustment requirements". If a programme is rated as "accredited with adjustment requirements", accreditation must be awarded for a shorter period of time than the full period of accreditation, after which compliance with the adjustment requirements is verified. If the adjustment requirements are not achieved within the set period of time, the accrediting panel can recommend that accreditation be withheld.

If the assessment outcome is unacceptable, the degree programme is not accredited.

3. Procedures for Programme Assessment and Programme Accreditation

This section lists the steps the programme assessment (based on self-assessment followed by external review) and programme accreditation procedures should follow.[3] Individual accreditation agencies may add further requirements to respond to nationally and culturally distinctive features of Higher Education in informatics and to ensure compliance with national legislation.

3.1. Application by a Higher Education Institution (HEI)

The detailed self-assessment report and documentation is submitted before the visit of the assessing team (sufficient time should be allowed for review of the report).

The table in Section 2.1 may serve as guideline for the HEI in producing (and for members of the auditing team in reviewing) the self-assessment report and documentation. In any case, the self-assessment report should provide adequate information against all the questions listed in the table in Section 2.1, taking into account at least all the items listed in the last column of the table.

3.2. Guidelines for the Procedure of Programme Assessment

3.2.1. Composition of Auditing Team

The auditing team should consist of at least three persons, preferably more, representing a balance of relevant experience and expertise. At least two members of the auditing team should be academics, at least one a practitioner with a SCD or equivalent in informatics. All members of the auditing team should be adequately trained in the conduct of the accreditation process. In this regard accreditation institutions should provide (or ensure provision of) adequate training.

To facilitate the dissemination of good practice in assessment, the accreditation agency should offer the option to include external observers from outside the respective economic region.

Each member of the auditing team must provide a statement indicating that no conflict of interest exists between the HEI Department at which one or more programmes are being accredited and the panel members themselves. This statement should be received prior to any documentation being distributed.

3.2.2. Duration of the Auditing Visit

The assessment visit normally lasts at least two days, including both any preliminary meetings of the audit team and the visit to the HEI.

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[3] In line with the Standards and Guidelines for Quality Assurance in the European Higher Education Area; ibid.
URL: www.bologna-bergen2005.no/Docs/00-Main_doc/050221_ENQA_report.pdf (2007-08-10).

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3.2.3. Structure of the Auditing Visit

The visit normally includes:

- a preliminary meeting of the auditing team prior to the visit to identify what information is to be obtained during the visit

- a meeting with head of department / university

- a meeting with academic staff members

- a meeting with support staff members

- a meeting with a representative group of students

- a meeting with former students

- a meeting with relevant employers / industry / professional informatics organisations representatives

- a visit of relevant facilities (libraries, laboratories, etc.)

- a review of project work, final thesis, examination papers and other assessed work (with regards to the standard and modes of assessment as well as to the learning achievements of the students)

- feedback by the auditing team at the end of the visit.

3.3. Guidelines for the Procedure of Programme Accreditation

3.3.1. Verification and Validation of the Report by the Accrediting Body

The auditing team prepares, and agrees on an assessment report. The assessment report is then submitted to the HEI to check for factual errors and (should the HEI desire) submit a statement on the report. The statement of the HEI is transmitted to the members of the auditing team for review of the assessment report and formulation of recommendation concerning the accreditation decision.

3.3.2. Decision on Accreditation

The final decision on accreditation should be taken by a designated board of the accreditation Agency. The accreditation decision must clearly define the period of validity (the duration of which should not exceed a maximum of six years) and whether it refers to year of entry or year of graduation. After the limited validity of the accreditation has expired, the programme must be submitted to re-accreditation.

The accreditation decision is then communicated to the HEI.

3.3.3. Publication

The list of accredited programmes must be made available to the public by each accreditation institution. The following section (Section 4) presents a recommended template for the publication; it will have to be adapted to national legislation.

4. Recommended Template for Publication of Results

Higher Education Institution (name in original language and in English)	
Country	
State/Province (where applicable)	
Name of the Programme (name in original language and in English)	
Degree Awarded	
Qualification Level (First Cycle / Second Cycle)	
Programme Objectives; Profile (where applicable)	
Programme Duration (Semesters; in case of "terms" of different length, indicate them and the equivalent in semesters)	Semesters
Total Number of ECTS Credits Awarded	ECTS cp
Curriculum Analysis (% and credits)**:** ◦ **informatics fundamentals** ◦ **advanced subjects (including final thesis)** ◦ **mathematics / natural sciences fundamentals** ◦ **interdisciplinary contents**	
Brief Description of the Programme	
Examples of Very Good Practice (where applicable)	
Accredited without / with Adjustment Requirements	
Adjustment Requirements (where applicable)	
Accredited by (agency, country)	
Accredited (from ... to …)	

5. Appeal Mechanism

Agencies or other national competent authorities that make accreditation decisions on the basis of the Euro-Inf Standards and Criteria should have an appeals procedure. The nature and form of the appeals procedure should be determined in the light of the constitution of each agency.

It should be evident from the documentation to what extent the appeals system is based on a hearing process through which the agency can provide those under evaluation a means to comment on and question the outcomes of the evaluation. Basically, the agency should provide evidence that the appeals system provides for those under evaluation an opportunity to express opinions about evaluation outcomes.