



As approved by the
A.R.A.C.I.S. Board
on 25.11.2010.

***ROMANIAN AGENCY FOR QUALITY ASSURANCE
IN HIGHER EDUCATION (ARACIS)***

Permanent Expert Commission no. 15

(EMPLOYERS PERMANENT EXPERT COMMISSION)

**Specific Standards of Assessment
for the Award of the EUR-ACE Label
to Academic programmes in the Fundamental Field of
*Engineering Sciences***

Engineering... is a great profession. There is the fascination of watching a figment of the imagination emerge through the aid of science to a plan on paper. Then it moves to realisation in stone or metal or energy. Then it brings homes to men or women. Then it elevates the standard of living and adds to the comforts of life. This is the engineer's high privilege.

Herbert Clark Hoover (1874 - 1964), engineer, US President, 1929-1933

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Employers Expert Commission**Foreword**

1. The EUR-ACE project is primarily aimed at developing a Framework for the accreditation / re-accreditation (see item 2.1, page 13) of academic engineering programmes in the European Higher Education Area (EHEA). The Framework Standards that have been developed and the procedures for their implementation, are intended to be widely applicable and inclusive, in order to reflect the diversity of engineering degree programmes that provide the education necessary for entry to the engineering profession. The proposed Framework affords a means for comparing educational qualifications in the EHEA, and thereby promoting the mobility of engineering graduates.
2. Accreditation involves a periodic assessment of a programme of engineering education against accepted standards. It is a peer review process, undertaken by appropriately trained and independent panels of practicing engineers, both industrial and academic, on behalf of properly constituted agencies. The process normally involves both scrutiny of data about the programme, and a structured visit to the Higher Education Institution (HEI) running the programme.
3. The Standards for accreditation can be used in both the design and the evaluation of programmes in all branches of engineering. They are expressed as Programme Outcomes that describe in general terms the capabilities required of graduates from accredited First Cycle and Second Cycle engineering programmes, as defined in the European Qualification Framework (cf. § 7), or from programmes that are designed to progress directly to a Second Cycle degree (conventionally termed “Integrated Programmes”). Consequently they will have to be interpreted by users to reflect the specific demands of different branches, cycles and profiles.
4. Because the Framework Standards describe the Programme Outcomes of an accredited programme but do not prescribe how they are realised, Higher Education Institutions 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.
5. Although the Framework is expressed in terms of accrediting degree programmes, it can be used for the accreditation of agencies that accredit (or intend to accredit) engineering programmes, provided their rules and Standards are consistent with the Framework (meta-accreditation); alternatively, it can be used as a guideline for drafting Standards and Procedures for new Agencies.
6. Throughout the following statements of Standards and Procedures, the term “engineering graduate” has been used to describe someone who successfully completes an accredited Programme in engineering. The term ‘engineer’ has been avoided because of the confusion that could arise from its widely different interpretations within Europe, including specific regulatory meanings in some

countries. It is for the appropriate authority in each country to decide if a qualification, accredited or not, is sufficient for engineering registration or qualification in that country, or if further education, training or industrial experience are necessary. The EUR-ACE accreditation label will assist such decisions, and particularly those that involve trans-national recognition.

7. This document also refers to the ‘Qualifications Framework in 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.

8. Two documents follow these Framework Standards: (i) a Commentary aimed at explaining the meaning of some of the terms used, and also to give more information about the background and Purpose of the EUR-ACE and follow-up projects; (ii) a Template that is recommended for publication of accreditation results.

9. The EUR-ACE Framework Standards are the basis of the EUR-ACE accreditation system.

GENERAL

1. Within the general framework of the reforms initiated by the Bologna process with a view to turn Europe into a strong and competitive society at an international level, capable of coping with current however even future, yet unknown threats, a special attention is directed, both by universities, and by the European Commission and several professional organizations, towards training the engineers to be.
2. Academic engineering programmes, alongside with other educational programs are meant to provide for the development of Europe as a society relying on knowledge, where education is harmonized and efficient in training high qualification labour force to make up the European Higher Education Area (EHEA), and scientific research produce knowledge and progress to make up the European Research Area (ERA).
3. Romania signed the Bologna Declaration in 1999 and was among the first 33 countries to assume the objectives as agreed, and made progress in such educational reforms that resulted in the achievement of practically all objectives of the Bologna Process, at different levels of functionality and efficiency, but certainly the most important achievements to yield beneficial effects were the ones in the field of the higher education institution quality assurance system.
4. Romania has participated and is actively participating in all events of the Bologna Process, which encompasses today 47 signatory countries, 5 interested countries (Australia, Canada, Japan, New Zealand and the United States of America), participating in ministerial conferences, which also comprises the European Commission, as a full member, the Council of Europe and UNESCO-CEPES as advisory board members, and partner organizations such as the European University

Association (EUA), the European Association of Institutions in Higher Education (EURASHE), the European Students' Union (ESU), Education International (EI) – academic representation, European Association for Quality Assurance in Higher Education (ENQA) and Employers' organizations – Business Europe.

5. For the first time, at the Ministerial Conference held in 2009 at Leuven and Louvain-la-Neuve, the European Society for Engineering Education (SEFI – set up in 1973, having 400 members in 42 countries) and the International Society for Engineering Education (IGIP – set up in 1972, having members in 70 countries) issued a joint Communiqué concerning the Bologna Process.
6. On the very same occasion of the Ministerial Conference held in 2009 at Leuven and Louvain-la-Neuve, the Bologna Policy Forum was founded including, in addition to the signatory countries, another 15 participating countries (Australia, Brazil, Canada, China, Egypt, Ethiopia, Israel, Japan, Kazakhstan, Kyrgyzstan, Mexico, Morocco, New Zealand, Tunisia, USA) and an association (IAU – International Association of Universities), who issued a favourable Communiqué concerning the Bologna Process.
7. The Romanian Agency for Quality Assurance in Higher Education (ARACIS) is a full member of the European Association for Quality Assurance in Higher Education (ENQA), is registered in the European Quality Assurance Register for Higher Education (EQAR) and recently, it became a member of the European Network for Accreditation of Engineering Education (ENAE).
8. The European Network for Accreditation of Engineering Education (ENAE) originates from the European Standing Observatory for the Engineering Profession and Education (ESOPE), which was set up on the 9th of September 2000, with a view to "build trust in the accreditation systems for programmes resulting in granting engineer diplomas in Europe" and facilitating the "information exchange", "voluntary agreements concerning the accreditation of educational engineering programmes and acknowledgment of qualifications in engineering" and "working out standards concerning the competences that any engineering graduate must have".
9. In pursuance of the said objectives, the ESOPE initiated as a proposal to the European Commission (Education and Culture Department) the EUR-ACE (EUROPEAN ACCREDITED ENGINEER) project, as approved in August 2004.
10. It was within the EUR-ACE Project that a European system for the accreditation of academic engineering programmes has been suggested namely for the first cycle and second cycle of academic programme, to result in the award of the EUR-ACE label that can be affixed to the diplomas of the graduates, while the accreditation agencies at a national level pursued the accreditations and assessments according to the specific standards.
11. The EUR-ACE label is owned by ENAE and has been created in March 2006, further to the success of the EUR-ACE Programme supported by the European Commission. This European organization (ENAE) is in its turn a member of the International Federation of Engineering

Education Societies (IFEES) and of the International Network for Quality Assurance Agencies in Higher Education (INQAAHE).

12. The EUR-ACE label can be attached to the accreditation delivered by the ARACIS, if the relevant programme meets the EUR-ACE Standard Framework requirements, distinctly for each of the first two cycles (Bachelor, Master) of the academic programme, or for integrated programmes (the ones directly resulting in a master's diploma) in accordance with the requirements as set forth by the National Qualifications Framework (NQF) – part of the European Qualifications Framework (EQF).
13. The EUR-ACE label is awarded within the framework of a decentralized European accreditation system and engineering education programmes, and each agency uses its own interface for the EUR-ACE database, as agreed with the ENAEE Permanent Secretary.
14. The Framework Standards for the EUR-ACE label are intended to facilitate the trans-national acknowledgement of the documents in proof of the completed studies and of the acquired qualifications by the simple presence of the said label, to facilitate the mutual acknowledgement arrangements and to facilitate, by the instrumentality of the competent authorities, the acknowledgement according to the European Directive 2005/36/EC.
15. Under such circumstances and under the auspices of the European organizations as evoked above, ARACIS decided upon setting up the Permanent Expert Commission no. 15 – that is the Employers' Permanent Expert Commission.
16. This shall proceed to the assessment of the academic programmes in the field of engineering with a view to award the EUR-ACE label to be affixed to Bachelor's diplomas or Master's diplomas relying upon its own specific standards, without altering the specific requirements as might be imposed by other permanent expert commissions.
17. A main component of the assessment performed by the Employers' Permanent Expert Commission is the integration of the academic programmes with the social-economic environment (business environment, academic and professional environment, all kinds of economic stakeholders' environment etc.), so that the product (i.e. the graduates) of the said programmes meet to the greatest possible extent the requirements set forth in the European Qualifications Framework (EQF), to integrate as much as possible and as quickly as possible in the national and European labour force market.
18. Under this aspect, the Employers' Permanent Expert Commission can take a new approach to the assessment (an approach from the viewpoint of the employers, the professional environment and the business environment), for any academic programme, so that, as a conclusion for the assessment, ARACIS can express conclusions that are most complete, most objective and as close as possible to the actual requirements set for training highly qualified labour force.

PRELIMINARY CONDITIONS FOR THE QUALIFICATION OF THE HIGHER EDUCATION INSTITUTION FOR THE ASSESSMENT AND AWARD OF THE EUR-ACE LABEL FOR ACADEMIC ENGINEERING PROGRAMMES

Specific Standards for the assessment of academic programmes for which the award of the EUR-ACE label is requested shall be utilized in the assessment process using Visit Sheet - Section c), relying upon the **Internal Assessment Report (REI)** and the visit on site based on aspects as shown below, and wording objective findings on grounds of documents to be usually added as Appendices to the Visit Sheet.

The Higher Education Institution being assessed shall fully meet the conditions imposed by the mandatory standards for the qualification in the label award process, and the final decision of award shall also rely upon the review concerning the fulfilment of the performance standards and indicators. Mandatory standards to be fulfilled with a view to the qualification for the award of the EUR-ACE label are:

For the First Cycle:

1. The higher education institution developing the academic programme shall be accredited.
2. Following the external institutional evaluation, the rating for the higher education institution is “confidence” or “high confidence”.
3. The academic programme applying for the award of the EUR-ACE label shall be accredited in terms of the educational form for which such label award is requested and shall have received the “confidence” rating. The academic programme includes educational disciplines or practice either in the country or abroad, providing for the practical use of a foreign language (English, French, German, Italian, Spanish), which is completed by a written assessment, assumed by the education institution and by at least one relevant employer (with a number of employees and a line of business close to the field of study for which the EUR-ACE label is requested).
4. Complementary disciplines (according to Annex 4 of the Specific Standards for the academic programme assessment in the fundamental field of Engineering Sciences, hereinafter called ARACIS-Specific Standards) include disciplines regarding the economic and administrative legislation at a national and European level (business contracts, administrative litigations, manpower, circulation of goods, etc.) or, failing this, themes within other disciplines, however at least 28 hours/cycle of academic studies.
5. All the provisions of the ARACIS-specific academic evaluation standards in the fundamental field of engineering science are fulfilled, without any reserve or favourable interpretations.

Failure to meet any of the mandatory standards results in the non-award of the EUR-ACE label. The assessment shall though be continued on grounds of the performance standards and

indicators with a view to work out all recommendations related to the integration of the academic programme with the social-economic environment and the conditions as set forth for the award of the EUR-ACE label.

For the Second Cycle:

1. The higher education institution developing the academic programme is a Master's Degree Studies Organizing Institution (Romanian IOSUM), in compliance with the legal provisions in force.
2. At the external institutional ARACIS evaluation, the higher education institution as a Master's Degree Studies Organizing Institution (Romanian IOSUM) obtained the "confidence" or "high confidence" rating.
3. The IOSUM shall be in possession of research centres or laboratories recognized by the academic community or the business environment (certification or successfully completed evaluation programmes), with modern equipment, in the field of study of the Master's degree programme for which the EUR-ACE label is requested.
4. The master's degree academic programme for which the EUR-ACE label is requested shall be accredited by ARACIS and confirmed by way of Order to be delivered by the Ministry of Education, Research, Youth and Sports.
5. The academic programme shall offer to its Master's degree students the possibility of proving their capacity to use an international language (drawing up documents or studies and articles, participation in international activities in the country or abroad).
6. The academic programme shall include disciplines regarding the economic, administrative and environmental legislation, at a national and European level (business contracts, administrative litigations, manpower, circulation of goods, environment protection, etc.) or themes within other disciplines, at least 28 hours/cycle of academic education.
7. All the provisions of the ARACIS-specific academic evaluation standards in the fundamental field of engineering science are fulfilled, without any reserve or favourable interpretations, for the study cycle and the field being evaluated.

Failure to meet any of the mandatory standards results in the non-award of the EUR-ACE label. The assessment shall though be continued on grounds of the performance standards and indicators with a view to work out all recommendations related to the integration of the academic programme with the social-economic environment and the conditions as set forth for the award of the EUR-ACE label.

Standard for the Accreditation of Academic Engineering Programmes for the Award of the EUR-ACE label

EUR-ACE Standard Programme

1. Expected Outcomes of the Academic Programme being Assessed for Accreditation (Section 1)

The six **Expected Outcomes** of the accredited academic engineering programmes are as follows:

- **Knowledge and Understanding;**
- **Engineering Analysis;**
- **Engineering Design;**
- **Investigations;**
- **Engineering Practice;**
- **Transferable Skills.**

Although the six Expected Outcomes of the Academic Programme are applicable both to the First Cycle and to the Second Cycle programmes, there are significant differences between the requirements of these two levels. Such differences among accredited First Cycle and Second Cycle academic engineering programmes should be reflected in the interpretation of the Programme Outcomes by the higher education institution and the accrediting commissions. Differences are especially relevant for learning activities having a direct contribution to the three Expected Outcomes of the Programmes related to engineering applications, i.e. Engineering Analysis, Engineering Design and Investigations.

Normally, students enrolling in an accredited Second Cycle academic programme are graduates of accredited First Cycle academic programmes however higher education institutions shall provide an opportunity for students who do not have this qualification to demonstrate that they fulfilled the Expected Outcomes for the First Cycle Programme. Integrated programmes directly resulting in a qualification that is equivalent to the Second Cycle qualification shall – cumulatively – provide both for the Expected Outcomes of the First Cycle Programme and the Second Cycle Programme.

For working out academic programmes, the Framework for the accreditation of academic programmes does not involve and does not mean any restriction as to the fulfilment of the specified Programme Outcomes. For instance, requirements as set forth by more than one Programme Outcome might be fulfilled within the framework of one and the same module or unit, such as the project work. Similarly, it might be possible that certain programmes are conceived so that the Transferable Skills Outcome requirements are delivered and assessed in their entirety within modules or units intended for meeting other Programme Outcome requirements, while in other academic programmes the requirements for the Transferable Skills are delivered and assessed in modules or units that are conceived for this very purpose.

It is assumed that a First Cycle graduate of an accredited academic programme acquires after the completion of all his/her studies at a higher education institution an overall minimum number of 240 ECTS credits, and a Second Cycle graduate of an accredited academic programme an overall minimum number of 90 ECTS credits (or any equivalent thereof if they graduated a higher education institution where ECTS credit system is not used).

Knowledge and Understanding

The knowledge and understanding of science, mathematics and engineering fundamentals are essential for the fulfilment of the other outcomes of the academic programme. Graduates shall demonstrate knowledge and understanding in their engineering specialization, and also in the broader context of engineering.

Graduates of First Cycle academic programmes **shall have:**

- knowledge and understanding of the scientific and mathematical principles in their branch of engineering;
- a systematic knowledge of the basic aspects and concepts in their branch of engineering;
- coherent knowledge in their branch of engineering, including some of a central interest in the branch;
- awareness of the multidisciplinary context in a broader sense of engineering.

Graduates of the Second Cycle academic programmes **shall have:**

- a thorough knowledge and understanding of the principles governing their branch of engineering;
- a critical awareness of the foreground related to their branch of engineering.

Engineering Analysis

Graduates shall be able to solve engineering issues according to their level of knowledge and understanding, which may include considerations beyond their field of specialization. Such analysis may include the identification of the problem, the clarification of the specification, taking into account the possible methods for reaching a solution, choosing the best method and the proper implementation. Graduates shall use a wide range of methods, inclusive of mathematical analysis,

computational modelling or practical experimentation, and shall be able to recognize the importance of social restrictions, as well as of those related to health and safety, environment and commercial aspects.

Graduates of First Cycle academic programmes shall:

- be able to use their understanding and knowledge in order to identify, formulate and solve engineering issues by means of established methods.
- be able to use their understanding and knowledge in order to analyse products, processes and engineering methods;
- be able to select and apply relevant analytical and modelling methods.

Graduates of Second Cycle academic programmes shall:

- be able to solve less known, incompletely defined issues;
- be able to word and solve problems in new and emergent fields in their field of specialization;
- be able to use their knowledge and understanding for conceptualizing models, systems and engineering processes.
- be able to apply innovative methods in solving problems.

Engineering Design

Graduates shall be capable to produce engineering designs according to their level of knowledge and understanding, cooperating with engineers and non-engineers. Such designs may be related to devices, processes, methods or artefacts, and the specifications may cover areas beyond strictly technical specifications, including the awareness-raising of social, health and safety, environmental and commercial considerations.

Graduates of First Cycle academic programmes shall have:

- the ability to use their understanding and knowledge for developing and producing designs meeting definite and specified requirements;
- the understanding of the design methods and the ability to use the same.

Graduates of Second Cycle academic programmes shall have:

- the ability to use their understanding and knowledge to conceive and design solutions for less known issues, which might involve knowledge of other disciplines, as well;
- the ability to use their creativity for developing new and original ideas and methods;
- the ability to use the engineering way of thinking with a view to cope with complexity, technical uncertainty and incomplete data.

Investigations

Graduates shall be able to use suitable methods for carrying out research works and other detail studies of engineering issues according to their level of knowledge and understanding. Such research works may include documentation in the reference literature, designing and making experiments,

interpretation of data and computer-based simulation. For this purpose, the graduate might need to consult databases, codes of practice and safety regulations.

Graduates of First Cycle academic programmes **shall have:**

- the ability to browse the reference literature of the specialty and to use databases and other sources of information;
- the ability to design and perform suitable experiments, to interpret data and draw pertinent conclusions;
- the ability to work in workshops and laboratories.

Graduates of Second Cycle academic programmes **shall have:**

- the ability to identify, locate and procure de requested data;
- the ability to design and perform analytical, modelling and experimental research;
- the ability to critically assess data and draw conclusions;
- the ability to investigate the application of new and emergent technologies in their branch of engineering.

Engineering Practice

Graduates shall be capable of using their knowledge and understanding in order to develop practical problem-solving abilities for solving problems, carrying out research works and design engineering devices and processes. Such abilities may include knowledge, utilization and limitation of materials, computer-based modelling, engineering processes, workshop practice, as well as documentation in technical reference literature and information sources. Also, they shall recognize the broader, i.e. ethic, environmental, commercial and industrial non-engineering implications of the engineering practice.

Graduates of First Cycle academic programmes **shall have:**

- the ability to select and use suitable equipment, instruments and methods;
- the ability to combine theory and practice with a view to solve engineering issues;
- the understanding of applicable techniques and methods, as well as the limitations thereof;
- awareness of the non-engineering implications of the engineering practice.

Graduates of Second Cycle academic programmes **shall have:**

- the ability to integrate knowledge from different branches and approach sophistication;
- a thorough understanding of the applicable techniques and methods, as well as the limitations thereof;
- awareness of the non-engineering implications of the engineering practice.

Transferable Skills

The academic programme shall develop the necessary competencies as needed for the engineering practice to be used however to a greater extent.

Graduates of First Cycle academic programmes shall be capable to:

- efficiently operate as individuals and as team-members;
- use diverse methods in order to efficiently communicate with the engineering community and with the society, as a whole;
- show awareness in terms of legal aspects and aspects related to health and safety, as well as the responsibilities of the engineering practice, the impact of the engineering solutions within the framework of the society and of the environment, and to be dedicated to the professional ethics, the responsibilities and the norms of the engineering practice;
- show awareness of practice in terms of project management and business management, as well the management of risks and changes, and understand the limitations thereof;
- admit the need and have the ability to engage in independent learning during their entire lifetime.

Graduates of Second Cycle academic programme shall be capable to:

- meet all Transferable Skills requirements as set forth for First Cycle graduates at the more demanding Second Cycle level;
- efficiently work as a team leader, and such activities may involve different specializations and levels;
- work and efficiently communicate in national and international environments.

2. Guidelines for Programme Assessment and Programme Accreditation

2.1 Guidelines for Programme Assessment Criteria and Requirements

Each engineering programme for which a Higher Education Institution requests accreditation or re-accreditation shall meet the national legal provisions in force and implement as follows:

- the educational objectives of the programme in keeping with the mission of the Higher Education Institution and the needs of all stakeholders (students, industry, engineers' associations etc.), as well as the programme outcomes (as per Section 1) in accordance with the educational objectives and the expected outcomes of the programme being assessed with a view to the accreditation;
- a curriculum and relevant processes providing for the fulfilment of the programme outcomes;
- academic and administrative support staff, facilities, financial resources and cooperation agreements with the industrial environment, research institutions and other Higher Education Institutions capable of fulfilling the programme outcomes;
- proper ways of assessment attesting the fulfilment of the programme outcomes;
- a management system capable of ensuring the systematic fulfilment and the continuous improvement of the programme outcomes.

Therefore, the guidelines for assessing a programme for accreditation purposes shall take into account at least the following:

1. Needs, Objectives and Results;

2. Educational Process;

- 3. Resources and Partnerships;**
- 4. Assessment of the Educational Process;**
- 5. Management System.**

Within this framework, engineering programmes shall be assessed for accreditation taking into account the extent to which the assessment criteria and the related "requirements" i.e. questions that are valid both for First Cycle academic programmes and for Second Cycle academic programmes, as shown in the Visit Sheet C), are met.

2.2 Guidelines for Assessment of Individual Requirements

To record the judgements of the achievement of individual requirements, a scale with at least three points shall be used, as follows:

1. Acceptable;
2. Acceptable with prescriptions;
3. Unacceptable.

The judgment "acceptable" should be awarded to requirements which have been fully met, even if improvements are still possible.

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

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

2.3 Guidelines for Assessing the Engineering Programme Accreditation Criteria

The accreditation of an engineering programme should be subordinated to the fulfilment of the requirements.

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

1. Confidence;
2. Confidence with prescriptions;
3. Non-confidence.

„Confidence“, 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". In this case, accreditation should be awarded for five years.

„Confidence with prescriptions“, with specification of prescriptions and the time in which prescriptions must be carried out, should be awarded if one or several requirements are judged to be "acceptable with prescriptions". If a programme is rated as "Confidence with prescriptions", accreditation must be awarded for a shorter period of time, i.e. of max. 2 years, after which compliance with the prescriptions is verified.

If any of the above conditions are not satisfied, then the accrediting panel can recommend that the accreditation be withheld.

3. Procedures for Programme Assessment and Programme Accreditation

This section lists the steps the programme assessment (based on self-assessment with a view to the external assessment) and programme accreditation procedures should follow.

3.1 Application by a Higher Education Institution (HEI)

A detailed self-assessment report and its documentation should be submitted at least one month before the visit of the accreditation panel at the university.

The table in Section 2.1 may serve as guideline for the higher education institution in producing (and for members of the accreditation panel in reviewing) the self-assessment report and documentation. In any case, the self-assessment report should answer to at least 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 Academic Programme Assessment

3.2.1 Composition of the Assessment Panel for Accreditation

The accreditation panel should consist of at least two persons, preferably more, representing a balance of relevant experience and expertise. At least one member of the accreditation team should be an academic, at least one a practising engineering professional. All members of the accreditation panel should be sufficiently trained in order to conduct the accreditation process.

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

From each member of the accreditation panel, a statement should be received indicating that a conflict of interest does not exist between the higher education institution at which one or several programmes are being accredited on their request, and the panel members. This statement should be received prior to any documentation being distributed.

3.2.2 Duration of the Assessment Visit for Accreditation

The accreditation process should last at least two days, including any preliminary meetings to assess the documentation and the visit to the higher education institution.

3.2.3 Structure of the Assessment Visit for Accreditation

The visit shall include:

- preliminary meeting of the external evaluation panel prior to the visit to identify what information is to be obtained during the visit;

- meeting with head of department / university;
- meeting with academic staff members;
- meeting with support staff members;
- meeting with students;
- meeting with former students;
- meeting with employers / industry / professional engineering organizations representatives;
- visit to facilities (libraries, laboratories etc.);
- review of project work, final papers and other assessed work (with regard to the standard and modes of assessment as well as to the learning achievements of the students);
- feedback of the evaluation panel at the end of the visit.

3.3 Guidelines for the Procedure of the Academic Programme Accreditation

3.3.1 Verification and Validation of the Report by the Accreditation Agency / Commission

The members of the accreditation panel prepare an accreditation report (cf. Document G4 for template). The accreditation report is then submitted to the higher education institution to check for factual errors and submit a statement on the report. The statement of the higher education institution is transmitted to the members of the accreditation panel for review of the accreditation report and formulation of recommendation concerning the decision of accreditation.

3.3.2 Decision on Accreditation

The final decision on the academic programme accreditation should be taken by an especially designated board of the accreditation institution. The accreditation decision must clearly define the period of validity (the duration of which should not exceed a maximum of five 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 a new assessment with a view to the re-accreditation. The accreditation decision is then communicated to the higher education institution.

3.3.3 Publication

The list of accredited programmes must be made available to the public by each higher education institution and by ARACIS.