



Wrocław University of Technology

QUESTE

*the Quality System of European
Scientific and Technical Education-
Labellisation and scoring*

Koblenz Summer Academy, July 2016.



Quality Assurance in Engineering Education in Europe

European Accreditation for Engineering Education



EUR-ACE® is the European quality label for engineering degree programmes. The label encompasses all engineering disciplines and profiles at First Cycle (Bachelors) and Second Cycle (Masters) level.



EUR-ACE®

The **EUR-ACE®** label offers benefits to Higher Education Institutions, students, graduates and employers including:

- Additional verification of high quality engineering education and assurance that a graduate's knowledge, understanding and practical capabilities meet international standards
- Assurance that graduates meet entry requirements for engineering Masters and Doctoral programmes
- Automatic inclusion of programmes into the FEANI Index
- Confidence that programmes meet the exemplifying academic requirements for registration
- Facilitation of mobility between EU member states under the Directive on Recognition of Professional Qualifications



EUR-ACE®

The EUR-ACE® Framework Standards are in three parts,

- **The Programme Outcomes** are the criteria for accrediting agencies to be authorised to award the EUR-ACE® label to accredited programmes.
- **Guidelines for Programme Assessment and Programme Accreditation** to be used by accreditation agencies when accrediting engineering programmes.
- **The Criteria, Requirements and Procedures** to be used as the basis for accreditation by accreditation agencies awarding the EUR-ACE® label

Idea of QUESTE



The EFMD network includes over 750 institutional members and reaches over 16,000 management development professionals from academia, business, public service and consultancy across 80 countries worldwide. EFMD plays a central role in shaping an international approach to management education and is a unique forum for information, research, networking and debate on innovation and best practice in management development. EFMD provides an international platform to bring together leaders in the management education profession in order to reflect upon major issues that they have in common.



QUESTE

QUESTE : *the Quality System of European Scientific and Technical Education- Labellisation and scoring* is an EU initiative promoted by European Network for Quality of Higher Engineering Education for industry jointly with EFMD - The Management Development Network to tackle the Lisbon strategy within the Bologna process through the triangle of knowledge: education, research and innovation developing creativity and entrepreneurship:

- enhancing the best quality in higher Scientific and Technical education and research
- awarding excellence within the European space of higher education and in a global context with the support of main academic institutions, corporate and technical circles.



QUESTE

QUESTE quality system covers two major areas:

- the institution, school, and discipline-unit,
- the offering of educational programs.

The engineering school (or unit) is asked to explain its unique road map in terms of:

- core values
- general strategy and positioning
- institutional objectives and outcomes
- processes of planning, change, and improvement

Educational programs are viewed in terms of program design, educational objectives and outcomes, curricular features, and provisions for assessment.



QUESTE Steps

Phase I

Application -
advisory visit

Phase II

Self assessment
(report)

Phase III

External
assessment
(site visit and
report)

Phase IV

Awarding of the
label



THE QUESTE MODEL

The process leading to QUESTE certification will consider the range of institutional options, strategic choices, objectives, results achieved, and the supporting institutional processes. These come together in four categories that form the **QUESTE model**:

- a clear sense of the mission and strategic objectives of the institution, engineering school, and discipline unit,
- a clear sense of the institutional identity, its core values, and "spirit", as points of reference for internal choices and internal or external communication,
- a clear sense of educational objectives and outcomes, notably the intellectual and practical competencies that graduates should possess and a vision of the roles that graduates will play both in the profession, the economy, and society,
- a working process of internal quality assurance, i.e.
 - ongoing self-assessment, based upon visible standards,
 - provision for periodic updating and improvement,
 - provision for the external review of programmes, resources, and procedures.



THE QUESTE MODEL

The QUESTE model provides a frame of reference for the planning and implementation of educational projects by teaching units. It presents a dynamic view of engineering education, based upon assessment, adaptation, improvement, and interaction with academic and industrial partners



Elements of QUESTE MODEL

- Well-defined institutional strategies
- Core values embraced by the institution
- Expression of intended outcomes (educational framework)
- A process of quality assurance and improvement



Educational framework

The engineering school and discipline unit must define objectives and expected outcomes for each degree program. This list will differ from the simpler and more general propositions of accreditation bodies. It will focus on more specific functional and professional outcomes that serve to differentiate graduates.

Proposed item	Element of differentiation
Mastery in a technical field	To be described in more detail in another reference framework. Will vary according to the discipline and department. Important for short-term employability
Preparation for specific engineering functions (R&D, System design, Infrastructure building	
Work and time management	
ability to do research (in an applicative context)	Strong element of differentiation
ability to design	
Development of intellectual skills: analysis, holistic view (on all kind of constraints)	Strong element of differentiation
ability to work in a group	
ability to have a critical view and an independent judgment	Strong element of differentiation
ability to understand risks	
ability to maintain own knowledge and to take benefit of networking (personal development)	element of differentiation



Process of quality assurance and improvement

Provisions for quality assurance and improvement are key points in the QUESTE assessment. The engineering school and/or discipline unit is expected to engage in outcomes assessment, and in turn, to verify the fulfilment of objectives. There must be a process for examining strategic decisions, the results obtained, and for making needed improvements.

Verification of the existence of three essential components.

- a policy of ongoing self-assessment
- a process of periodic updating and improvement
- the utilization of external review of programmes, resources, processes, and results



The QUESTE Dimensions

Authorization: the institution, discipline, and degree programs

Objective: The institution *is currently authorized* to offer “scientific” or *research-based* Masters-level degree programs and to confer degrees in the discipline(s) proposed for review. Such authorization may be obtained from a government agency, derived from the institutional charter, or both



The QUESTE Dimensions

The Discipline-Unit

Objective: there is an identifiable and coherent educational unit at the discipline level, responsible for the degree programs under review.

Program mix

Objective: the various educational offerings of the discipline-unit operate in a complementary, harmonious, and effective manner.



The QUESTE dimensions

Overall mission and strategy

Overall Objective: The activities of the institution, its schools, and discipline-units are driven by a shared sense of mission and strategy

Mission statements

Objective: The institutional and discipline-level *mission* statements are clear, oriented to excellence, complementary and non-conflicting, accepted internally, and credible with regard to key stakeholders and the higher education market.

Indicators:

- Input from key stakeholders in the development of mission statements.
- Excellence is reflected in the stated Mission.
- Effective implementation of the mission and related strategies.



The QUESTE dimensions

The mission and strategic objectives of the discipline-unit

Objectives: The mission of the discipline-unit is translated into *strategic objectives* and action plans that are clear, coherent, credible, and feasible in terms of the institutional and market environment, available resources, and known constraints.

Indicators:

- Clear, coherent, credible strategic objectives and operational action plans.
- Regular consultation with industrial, professional, and academic stakeholders
- Discipline-level strategy is fully and actively supported by the institution and within the discipline-unit itself.



The QUESTE dimensions

International policy & strategy

Objective: A forward-looking and competitive *European* institution has a conscious policy and strategy for the international aspects of education, research, and entrepreneurial ventures.

Indicators:

- An understanding of the international effort: strengths and weaknesses (benchmarking approach e.g.), opportunities and constraints.
- The international policy and strategy of the discipline-unit complements the policies of the engineering school and/or institution.
- The effects of international policy and strategy have been properly assessed. The results are used for improvement and future planning.



Who can benefit from Queste process?

The institution as a learning organization

The process will address and validate key institutional choices, and verify

- the consistency of institutional and strategic objectives with the QUESTE concept,
- the core values,
- the consistency of educational objectives and outcomes with institutional ambitions, core values, and resources
- a feedback from industry implying the gathering of information from key stakeholders; e.g., information on the activities of graduates, and input from industry, technological business, and working professionals.

The teaching or discipline-unit

- The audited self-assessment calls for a close look at the planning, implementation, evaluation, and improvement of educational programs and supporting activities.



Excellence label - QUESTE (2013)



POLITECHNIKA WROCŁAWSKA

Queste

Quality System of European Scientific & Technical Education

Label of Excellence

