

International Frameworks for Accrediting Engineering Education Programmes

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**European Network for Accreditation of
Engineering Education**

Outline

Characteristics of frameworks

Comparing frameworks

Main conclusions

International Accreditation Frameworks

Response to mobility policy of European Union, Bologna process, and multi-national companies.

Evaluation of accreditation agencies to ensure comparability of standards, not evaluation of programmes.

Comparison of ENAEE and IEA frameworks is part of EUGENE project.

International Engineering Alliance (IEA) administers Washington Accord (15 signatories) and Sydney Accord (8 signatories).

European Network for accreditation of Engineering Education (ENAEE) has 7 authorised agencies, 5 applications.

Framework Characteristics

Framework should

- Respect national traditions in education.
- Apply to all branches of engineering.
- Recognise new teaching methods.
- Encourage new branches of engineering.

Framework should be consistent with other international standards:

- European Qualifications Framework.
- Standards and Guidelines for QA in EHEA.
- Dublin descriptors.

IEA and ENAEE Framework Structures

IEA

- **Washington Accord and Sydney Accord have two different profiles, and different levels.**

ENAEE

- **EUR-ACE framework is designed to include both profiles.**
- **In EUR-ACE, 1st and 2nd cycles are progressive, with similar content at different levels.**

Framework Comparison

Framework should make statements about:

- **Specification of programme content.**
- **Specification of programme level.**
- **Specification of resources.**
- **Decision making procedures.**

EUGENE comparison only of content and level

Content and Level

Level is how advanced the content is.

Content includes:

- **Fundamental science and mathematics;**
- **Analysis and problem solving;**
- **Design;**
- **Investigations;**
- **Practical skills;**
- **Personal skills.**

Method of Comparison

Developed glossary common to IEA and ENAEE.

For each 'learning outcome' in one framework are there matching 'learning outcomes' in the other? And then the reverse comparison.

Three pairs of comparisons:

- Washington Accord and EUR-ACE 2nd cycle**
- Washington Accord and EUR-ACE 1st cycle**
- Sydney Accord and EUR-ACE 1st cycle.**

Main conclusions

Content equivalent (mathematics, analysis, design, etc).

Washington Accord and EUR-ACE 2nd Cycle both use 'forefront' to define level. But how to interpret? Equivalent level within some uncertainty.

Similarly Sydney Accord and EUR-ACE 1st cycle are similar in level, but the uncertainty is greater.

Some differences in use of defined words.

Forefront

Forefront of a branch of engineering or a specialization is the knowledge of recent developments in practice and research. In a field of study that combines knowledge from different branches, the forefront is interpreted as that of the combination and not of the individual branches.

Future

EUGENE report to be finalised and forwarded to ENAEE.

ENAEE and IEA to discuss differences.

Would agreement between IEA and ENAEE be a step towards global standards?

Report

The full report on comparison will be published on the EUGENE website:

www.eugene.unifi.it

Thank you