Commission
des titres d'ingénieur

Workshop 2

EUR-ACE programme outcomes in relation to national standards and requirements

European Accreditation of Engineering Programmes
EUR-ACE®

EUR-ACE programme outcomes in relation to national standards and requirements

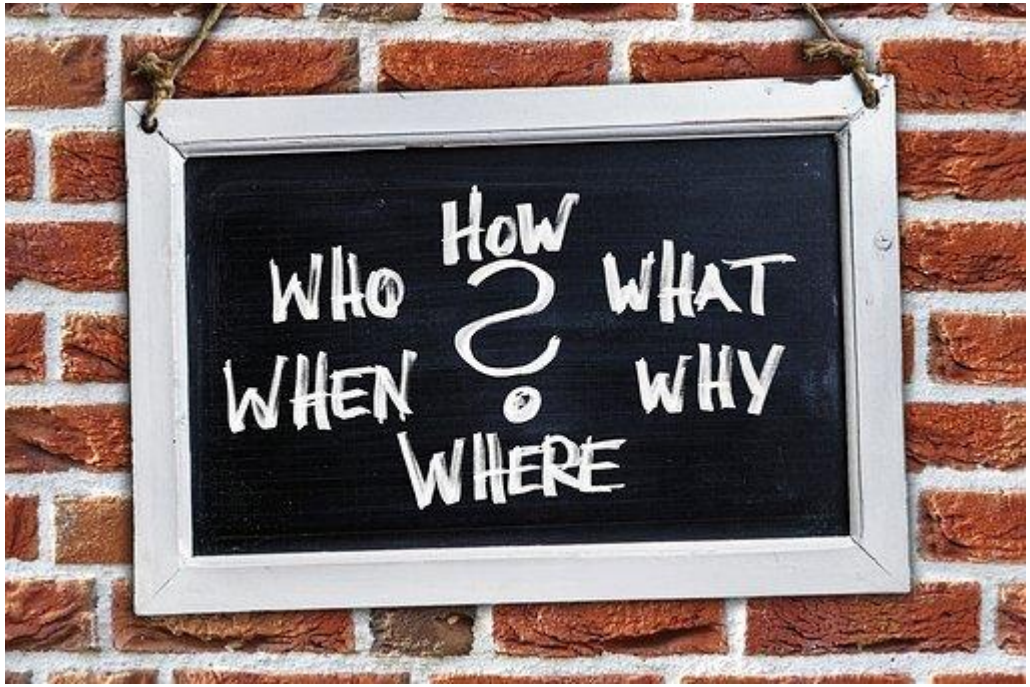
Continuous revision of standards: is there a need for changes in EUR-ACE standards in the context of new demands, revision of national standards and gained experiences?

EUR-ACE programme outcomes in relation to national standards and requirements

- CTI's standards and guidelines (R&O) revision process
  - R&O, what's that?
  - Regular updates of R&O
  - Latest major revision: 2015-16
- CTI and EUR-ACE criteria mirrored
  - Comparison
  - Comments and differences
- Likely evolutions
- Conclusion

EUR-ACE programme outcomes in relation to national standards and requirements

R&O? What's that?



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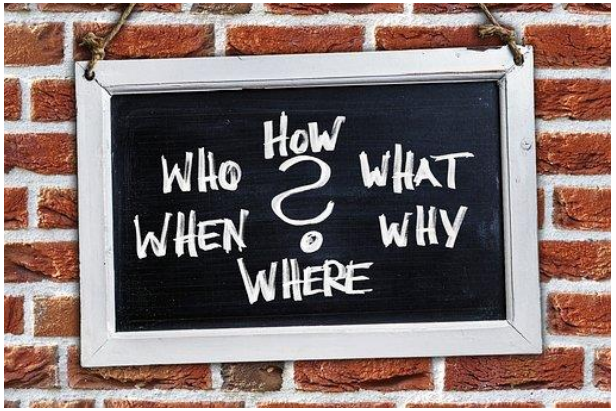
R&O? What's that?

- CTI's standards and guidelines documents describing programme outcomes for the engineering degree (only Master's level in France)
- Major criteria regarding the institution and co-operation with its environment (industry, research, international), the training programme, employment, internal quality assurance
- A self-assessment guide
- Description of the procedures



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Regular revision of R&O

Every 3 – 4 years, taking into account:

- The evolution of the engineering profession and the related impact on the expected competencies
- The evolution of our external quality assurance practice (further details on demands, change of procedures)
- The evolution of engineering schools and pedagogy

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Latest major revision: 2015-16

- Rationalization of the document

- Revision of the guidelines regarding expected programme outcomes:

  - Make more explicit the coherence with EUR-ACE. For instance, existing key words take chapter head positions: design, research

  - Emphasis put on informative competencies (request by the HEIs) and on innovation (French economic context)

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CTI and EUR-ACE criteria mirrored:

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Acquisition of scientific and technical knowledge and capacity for its implementation

CTI	EUR-ACE (Master)
Knowledge and understanding of a broad field of basic and applied sciences; the analytical and synthesis capacity associated with them	1- Knowledge and understanding
Mobilize resources from a specific scientific and technical field	1- Knowledge and understanding
Command of the methods and tools of the engineer	2 – Engineering analysis 5 – Engineering practice
Ability to design, implement, test and validate innovative solutions, methods, products, systems and services	2 - Engineering analysis 3 – Engineering design 5 – Engineering practice
Capacity to carry out research activities, fundamental or applied, to set up experimental devices, …	4 – Investigations
Ability to find, evaluate and exploit relevant information: information literacy	4 – Investigations

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Taking into account the needs of industry and society

CTI	EUR-ACE
Taking into account the stakes of industry: economic dimension, respect for quality, competitiveness and productivity, business requirements, economic intelligence	5 – Engineering practice
Issues of workplace relations, ethics, responsibility, safety and health at work	5 – Engineering practice 6 – Making judgements
Environmental issues, sustainable development	3 – Engineering design 5 – Engineering practice
Issues and needs of society	1 – Engineering analysis 6 – Making judgements

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Taking into account the organisational, personal and cultural dimension

CTI	EUR-ACE
To integrate into the professional life, into an organization, to animate and change it, … Communication with specialists and non specialists	7 – Communication and team-working 6 – Making judgements
Entrepreneurship and innovation	?
Work in an international context	7 - Communication and team-working
Know oneself, self-assess, manage one's competencies, capacity for life-long learning, make professional choices	8 – Lifelong learning

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Some comments arose from the comparison between R&O and EAFSG

✓ COMMUNICATION AND TEAM-WORKING (2.3.1)

Could be beneficial to separate in two items

✓ MAKING JUDGEMENTS (2.3.2)

ability to manage complex technical or professional activities or projects that can require new strategic approaches, taking responsibility for **decision making.**

Could be more specific/developped

EAFSG could, from CTI's point of view, put more stress on:

✓ ***Entrepreneurship competencies***

✓ ***SHES and soft skills, sustainability***

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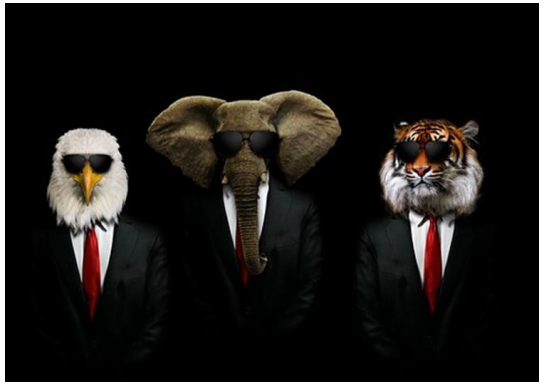
A common suit but context-related specifities



The programme outcome guidelines are very compatible, but CTI is prescriptive as regards levels or means:

- Proficiency in English
- Compulsory internships in industry (28 weeks)
- Recommendation for a compulsory outgoing student mobility (work placement or academic)
- Diversification of pedagogical methods, time allocated for self-learning (limited face-to-face teaching)

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Likely evolutions

- Criteria on numerical capacities (linked to industry related criteria 4.0)
- Publishing of volumes IV and V: further thematic developments

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To conclude and open the discussion to the floor …

- ✓ ***ENAEE : umbrella agency, EAFSG : umbrella guidelines***
- ✓ ***taking into account the diversity of contexts, without getting too specific***
- ✓ ***All changes can not and should not be taken into accout***
- ✓ ***Taking into account major and transnational trends and evolutions***
  - ***Both bottom up and top down approach***
  - ***Continuous benchmark more formalized? (LC, other instances CDIO, ENQA…)***
  - ***Periodical revision process and if necessary position statement in between if an unavoidable change occurs in between (annexed to EAFSG)***
  - ***Formalise more a global stakeholders' consultation in the revision process (industry, academia, pedagogy, society, ethics, …)***

Thanks a lot for your attention ☺

Further information :

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