

How do we make High Quality Degree Programmes?

Use of Meta-profiles and Profiles for developing Degree Programmes: How to identify the right set of competences for a Degree Programme

Pablo Beneitone

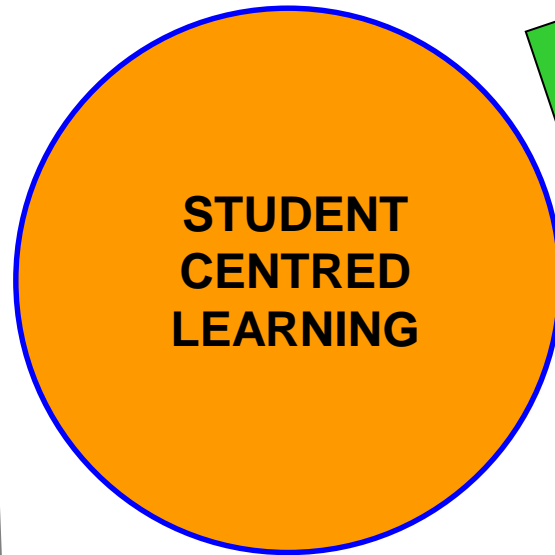
Hashemite University, 18 May 2015

ENHANCING

CONSULTING

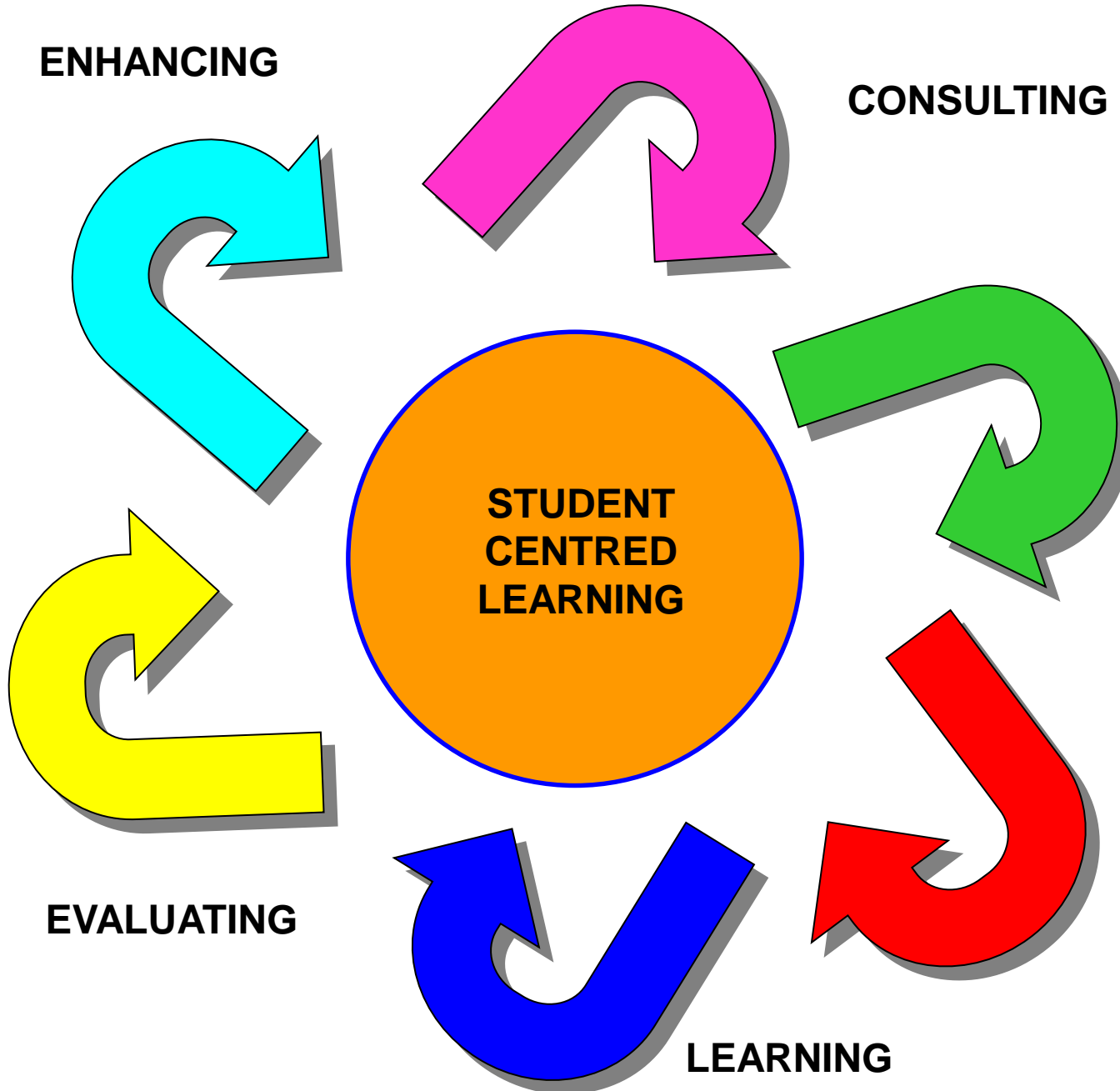
PROFILING

DESIGNING

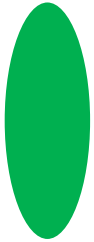
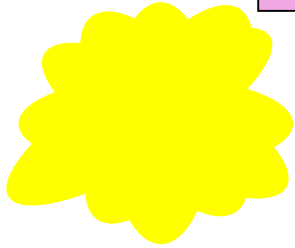


EVALUATING

LEARNING



Key elements



Year	Semester	Course/Module	Credits
1	1st Semester	Agricultural Chemistry and Soil Science	6
		Animal Production: Principles and Techniques	6
	2nd Semester	Agri-Industry and Entrepreneurial Skills Development	6
		Animal Health, Nutrition and Welfare	6
		Agri-Entrepreneurship and Agri-Management	6
		Agri-Extension and Communication	6
2	3rd Semester	Agri-Extension and Communication	6
		Agri-Entrepreneurship and Agri-Management	6
	4th Semester	Agri-Extension and Communication	6
		Agri-Entrepreneurship and Agri-Management	6
		Agri-Extension and Communication	6
		Agri-Entrepreneurship and Agri-Management	6
3	5th Semester	Agri-Extension and Communication	6
		Agri-Entrepreneurship and Agri-Management	6
	6th Semester	Agri-Extension and Communication	6
		Agri-Entrepreneurship and Agri-Management	6
		Agri-Extension and Communication	6
		Agri-Entrepreneurship and Agri-Management	6

KC

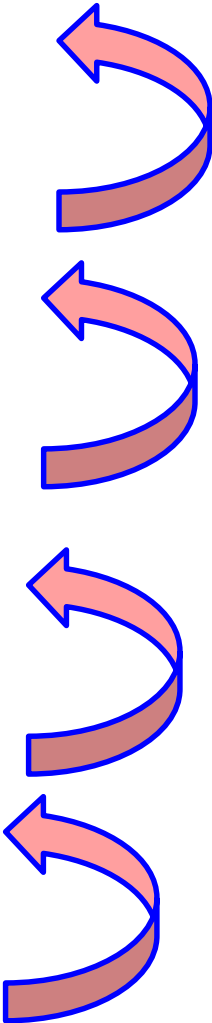
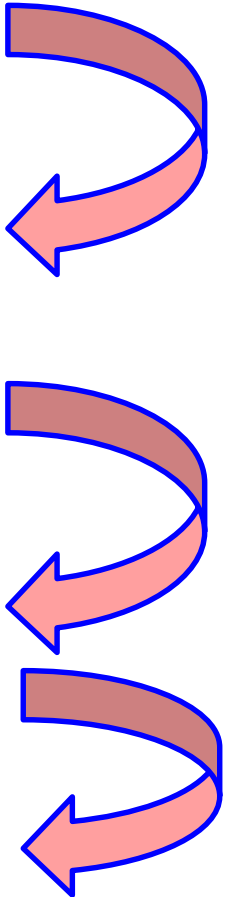
Meta profile

Degree profile

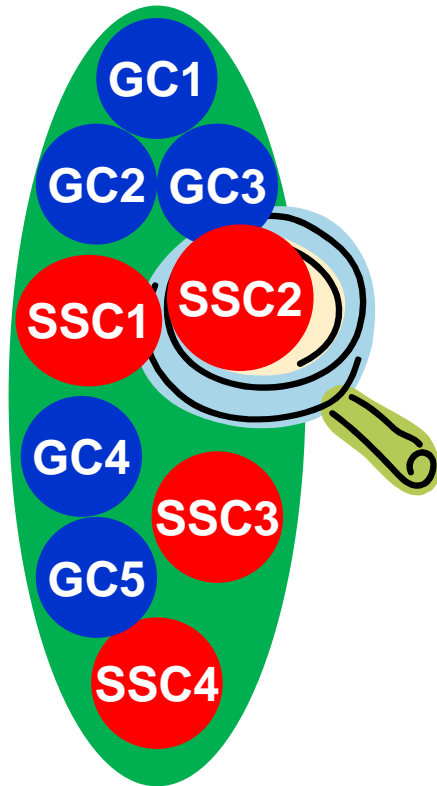
Programme

Key Competences

LEARNING OUTCOMES



Concepts. Definitions



Degree profile

Describes in terms of **competences** and **learning outcomes** what graduates will know, understand and be able to do by the time they have successfully completed the programme.

A set of key competences (**Generic (GC)** and **Subject Specific (SS)**) to be developed by the learners in the framework of a programme.

Should be very concise and it needs to be very clear.

Provides a tool for: **COMMUNICATION**, **TRANSPARENCY** and **RECOGNITION**

Competence

What is a **competence** according to Tuning?

- Is a broad concept
- Represents a **dynamic combination** of:
 - **Knowledge** and understanding at different levels
 - **Skills** and abilities
 - **Attitudes** and values
- Competences are used to define degree profiles
- Competences are formed in various course units and assessed at different stages.
- Some competences are **subject area related** (specific to a field of study) while others are **generic** (common to any degree programme)

Subject Area X

**Degree profile
University A**

**Degree profile
University I**

**Degree profile
University B**

**Degree profile
University H**

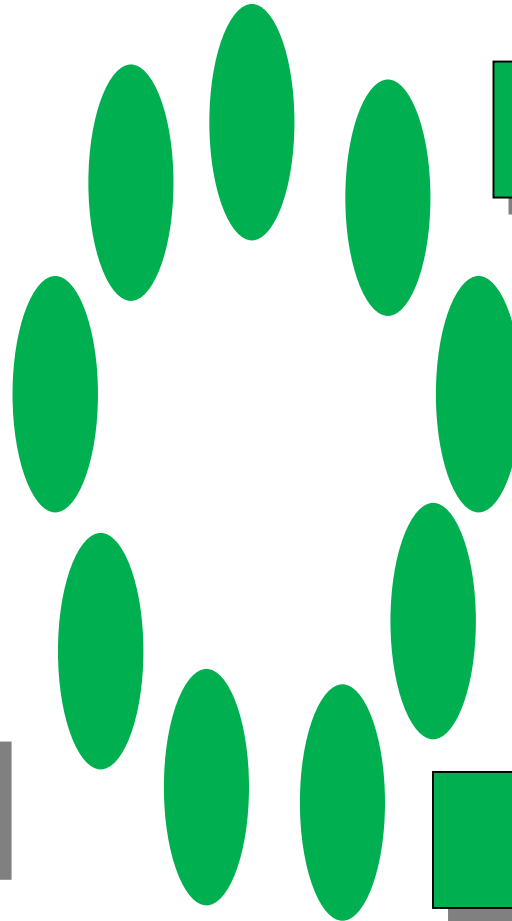
**Degree profile
University C**

**Degree profile
University G**

**Degree profile
University D**

**Degree profile
University E**

**Degree profile
University F**



List of Generic Competences

GC1

GC2

GC3

GC4

GC5

GC6

List of Subject Specific Competences

SSC1

SSC6

SSC2

SSC7

SSC3

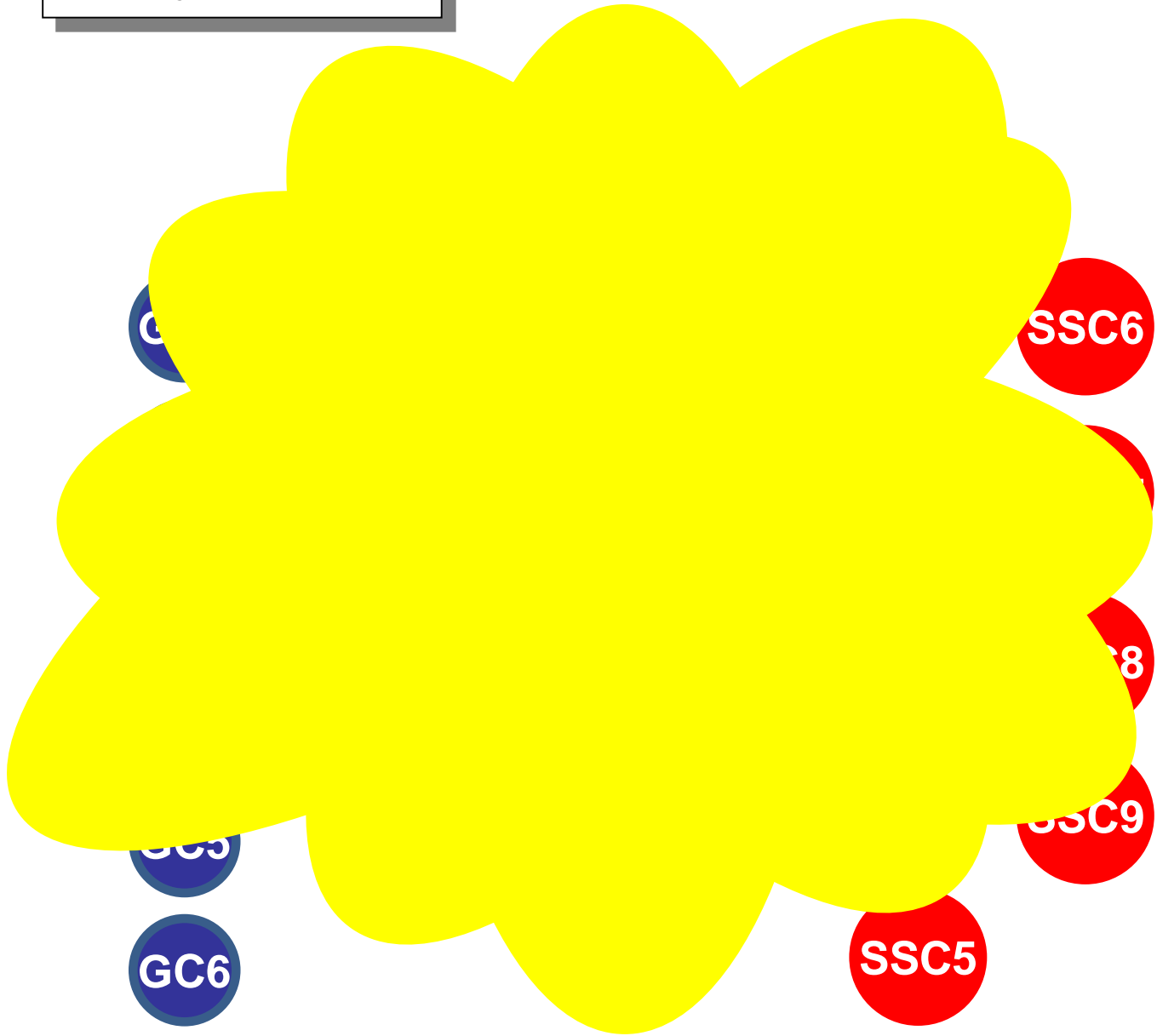
SSC8

SSC4

SSC9

SSC5

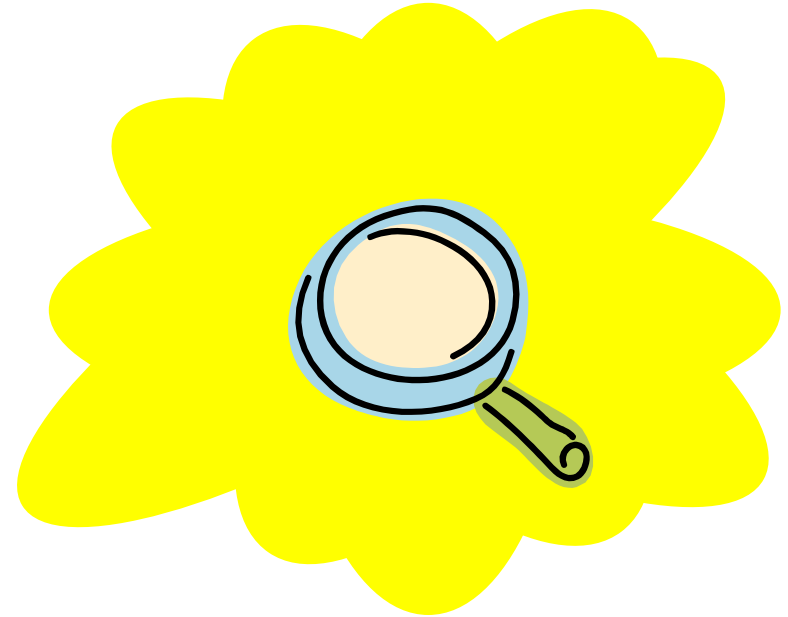
Subject Area X



Meta profile

A Meta – profile is a group´s representation of the structure and combination of competences which gives identity to a thematic area.

The meta-profiles are referential elements and they are always mental constructions, destined to reflect and analyse the possible and diverse real degree profiles



Some examples of META-PROFILES

List of 18 Generic Competences

GC1

GC2

GC3

GC4

GC5

GC6

List of 54 Subject Specific Competences

SSC1

SSC6

SSC2

SSC7

SSC3

SSC8

SSC4

SSC9

SSC5

Original Subject Specific Competences for Civil Engineering in Africa (54 competences)



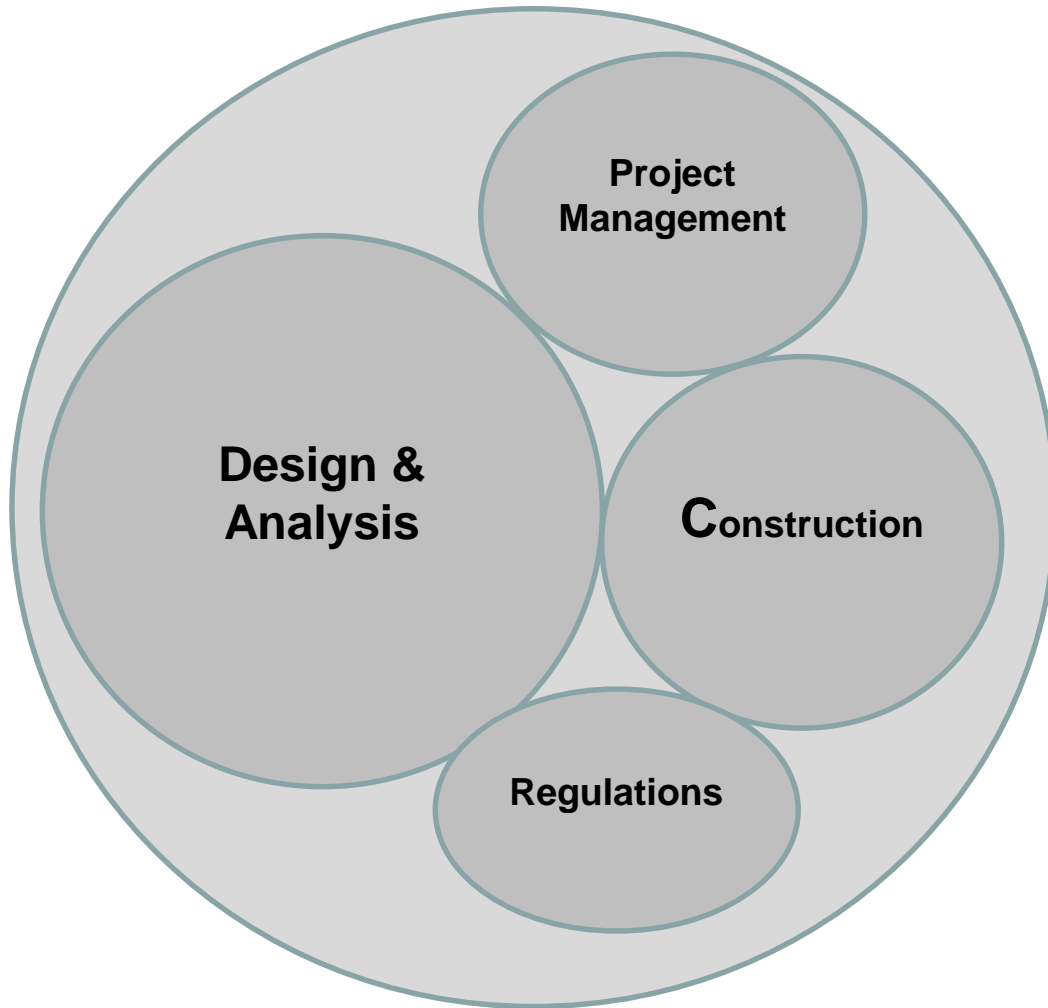
1. Ability to identify the need for construction of any type and structure (new, old)
2. Ability to identify different options (e.g. the need to demolish, reconstruct, maintain, rehabilitate, renovate and to plan those activities)
3. Skills in cost, quality and time optimization
4. Skills in Environmental and Social Impact Assessment
5. Skills in cost, quality and time optimization
6. Knowledge about the context and challenges of environment and development
7. Ability to transmit project requirements into sketches and explain it to clients
8. Ability to analyse, reconfigure and apply relevant drawings, data and technologies
9. Ability to coordinate, supervise and control
10. Capacity to model and simulate systems, structures, projects and processes
11. Ability to effective and professional interaction with other professions and to come to integrate solutions
12. Ability to design
13. Knowledge of plant and equipment
14. Capacity to test the quality of building materials
15. Skills in research on appropriate technologies
16. Skills in developing new construction technologies and materials
17. Skills of testing materials and technologies
18. Skills in cost, quality and time optimization
19. Ability to calculate design parameters (Mathematical skills)
20. Ability to analyse (mathematical and abstract background as basis for decision making)
21. Ability to program (to plan the process and allocate resources)
22. Knowledge about national and international construction standards
23. Ability to identify appropriate legal frameworks
24. Skills in handling data / information (survey data, soil information, materials data, environmental data, social data ...)
25. Knowledge of maintenance of infrastructure
26. Ability to calculate and quantify
27. Ability to effective and professional interaction with other professions and to come to integrate solutions

Original Subject Specific Competences for Civil Engineering in Africa (54 competences)



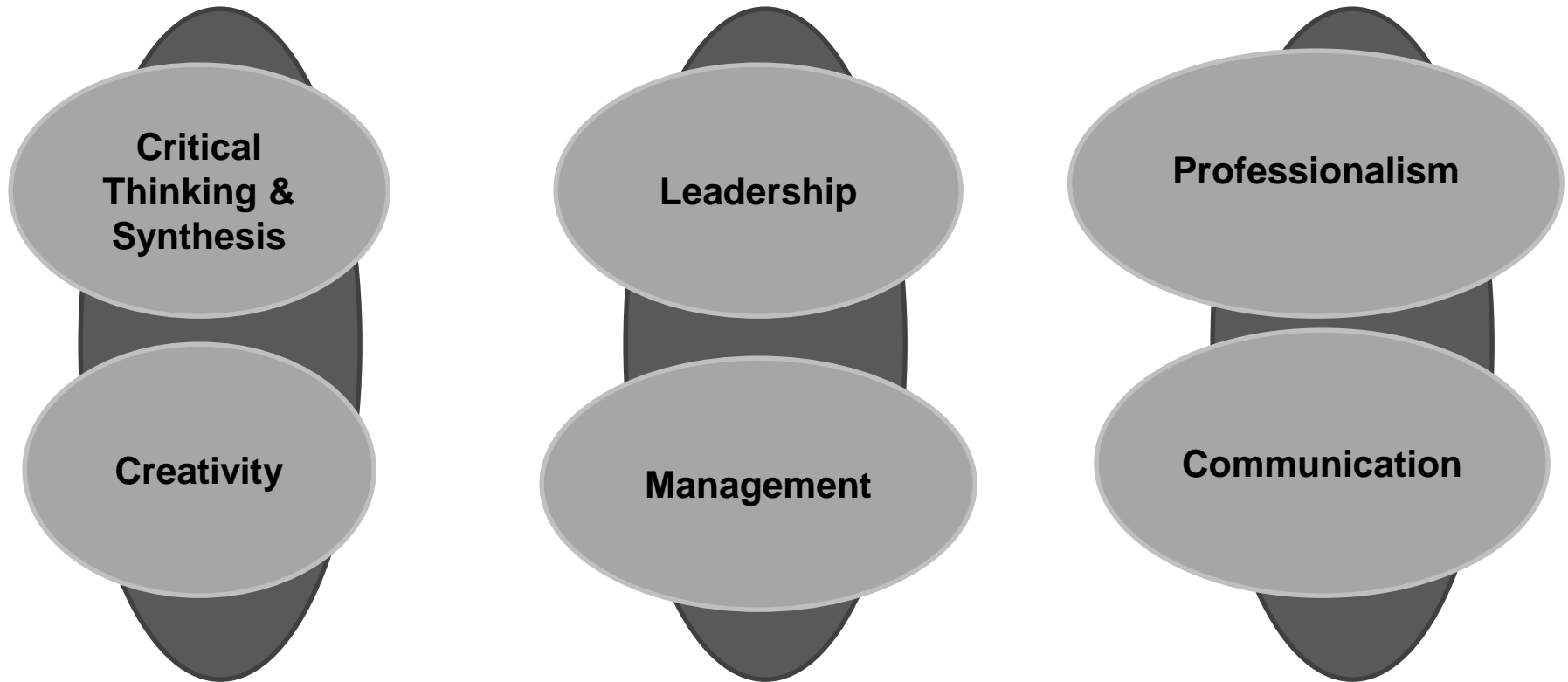
28. Understanding contractual and financial management aspects as well as of insurance and guarantees aspects (procurement)
29. Ability to program (to plan the process and allocate resources)
30. Skills in cost, quality and time optimization
31. Ability of translating, interpreting of data and/or drawings into actual construction
32. Knowledge of plant and equipment
33. Ability of translating, interpreting of data and/or drawings into actual construction
34. Ability to effective and professional interaction with other professions and to come to integrate solutions
35. Knowledge on basic Construction management principles (Work Breakdown, Time, Risk, Quality, Resource, Financial and HR Management, Monitoring)
36. Ability to coordinate, supervise and control
37. Knowledge of plant and equipment
38. Commitment to health and safety
39. Knowledge of maintenance of infrastructure
40. Ability to reconstruct, maintain, rehabilitate, renovate Ability/skills to supervise construction
41. Ability to program (to plan the process and allocate resources)
42. Capacity to test the quality of building materials
43. Skills in developing new construction technologies and materials
44. Ability to supervise/manage
45. Ability to control construction
46. Quality management/ Skills in quality control techniques
47. Skills in cost, quality and time optimization
48. Capacity to introduce health and safety measures in construction and materials
49. Skills in handling data / information (survey data, soil information, materials data, environmental data, social data ...)
50. Skills to deal with dispute resolutions
51. Skills to finalize financial implications and legal responsibilities
52. Skills to deal with dispute resolutions
53. Skills to address defects and quality issues
54. Skills in commissioning

After consultation process, the following core clusters were identified in Africa for Civil Engineering:



The group was in consensus that these four core clusters are identified as central in most Civil Engineering curricula of the Universities taking part in the Tuning project.

Clusters of Generic Competences (also linked with Subject Specific Competences)



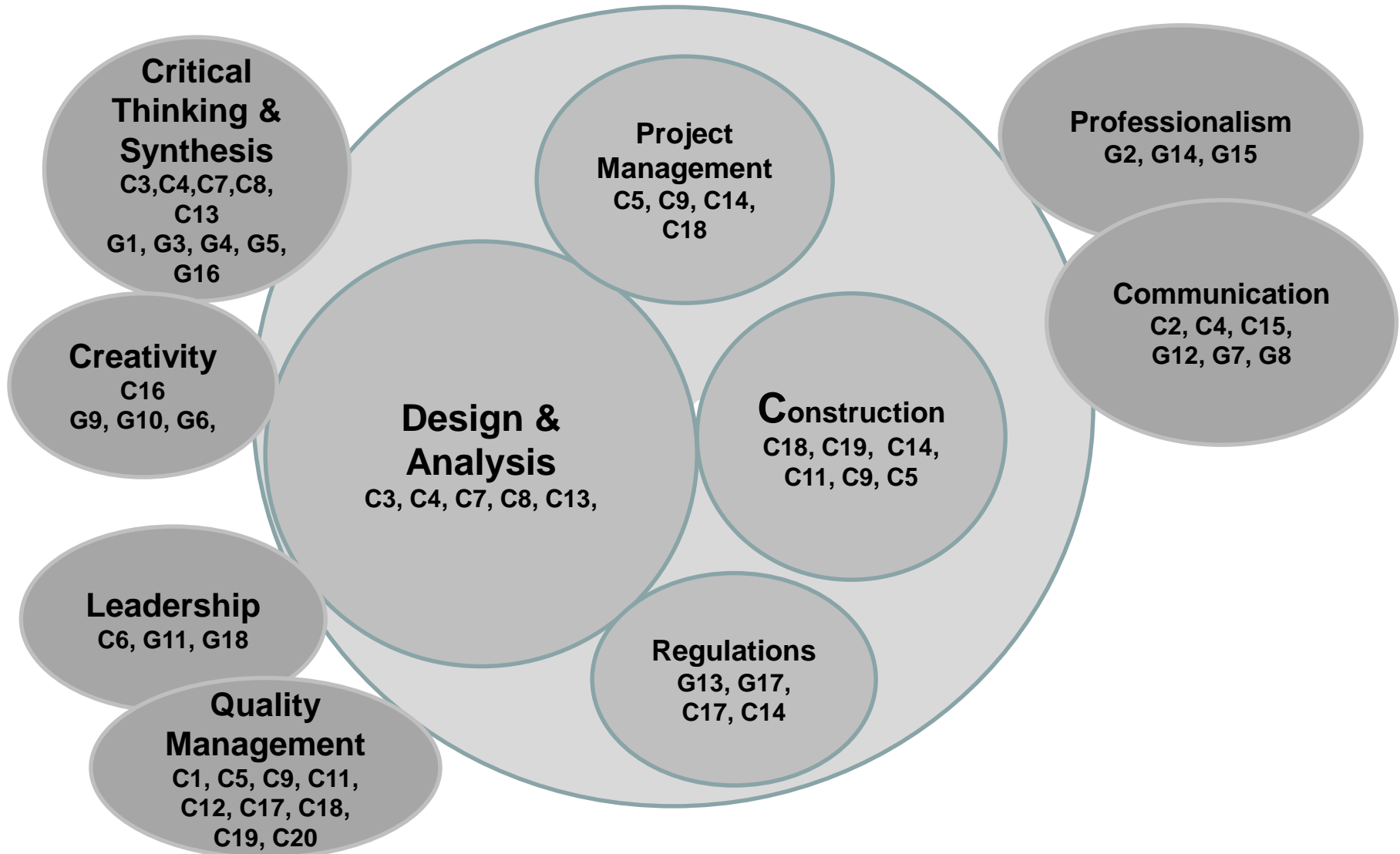
Clustering

	Subject Specific Competence	Cluster
1.	Ability to coordinate, manage, supervise and control construction	Management
2.	Ability to translate and interpret for data and/or drawings into actual construction	Communication
3.	Ability to design, quantify and calculate parameters and capacity to model and simulate systems, structures, projects and processes	Design & Analysis
4.	Ability to analyze, reconfigure and apply relevant drawings, data and technology and ability to transmit project requirements into sketches and explaining it to clients	Design & Communication
5.	Knowledge to reconstruct, maintain, rehabilitate, renovate and knowledge of maintenance of infrastructure	Management
6.	Skills in cost, quality and time optimization and quality control techniques	Leadership
7.	Skills in handling data or information (survey data, soil information...)	Analysis
8.	Ability to identify the need for construction of any type and structure and ability to identify different options	Analysis
9.	Knowledge of basic construction management principles and to program	Management
10.	Commitment to health and safety and capacity to introduce safety measures in construction and materials	Regulations
11.	Capacity to test the quality of materials	Quality Management
12.	Quality management and skills to address defects and quality issues	Quality Management
13.	Ability to analyze (mathematical abstract background as basis for decision making)	Analysis
14.	Knowledge about national and international construction standards	Regulations
15.	Ability to develop effective and professional interaction with other professions and to come to integrate solutions	Communication
16.	Skills in developing new, appropriate and sustainable construction technologies and materials	Creativity
17.	Skills to finalize financial implications and identify legal responsibilities and frameworks	Management & Regulations
18.	Knowledge of plant and equipment	Management
19.	Basic understanding of contractual and financial management as well as of insurance and guarantee aspects	Management
20.	Skills in environmental and social impact assessment, knowledge about the context and the challenges of development	Regulations & Sustainability

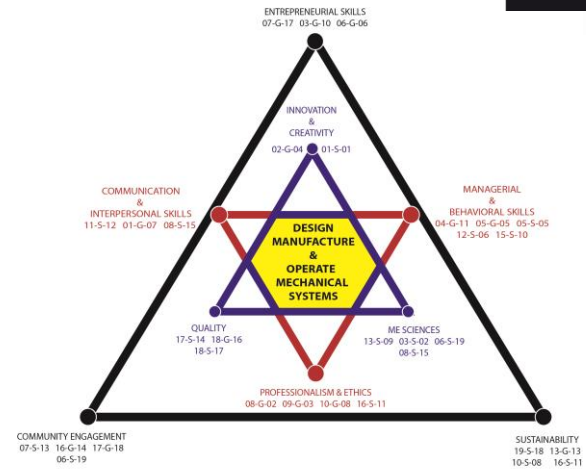
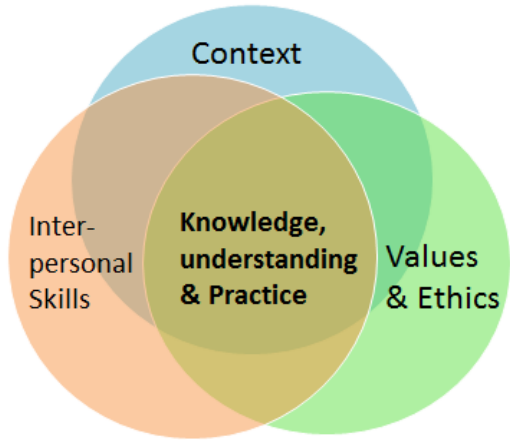
After this reflection process the group agreed 20 Subject Specific Competences for Civil Engineering in Africa organized by clusters

They integrated 18 Generic Competences and they elaborated a Meta-profile for Civil Engineering in Africa

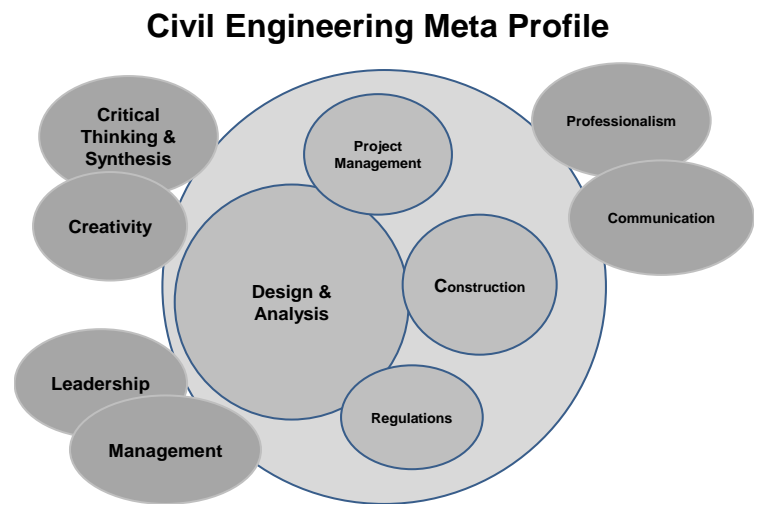
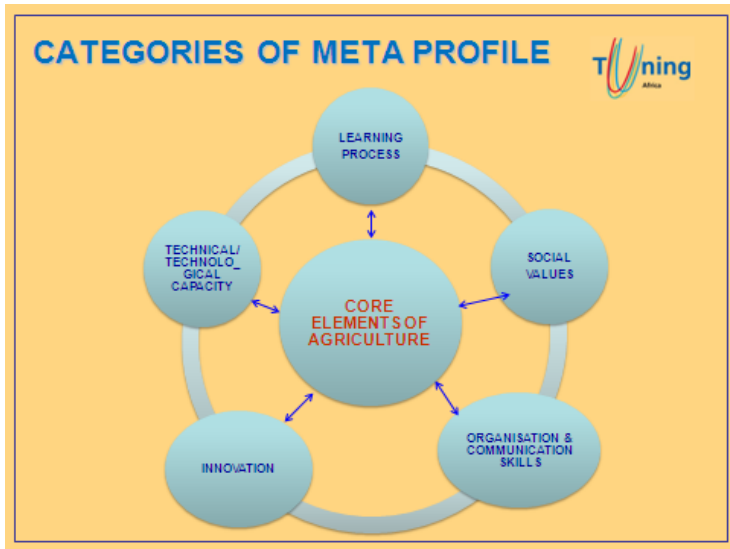
An example of Metaprofile: Civil Engineering in Africa

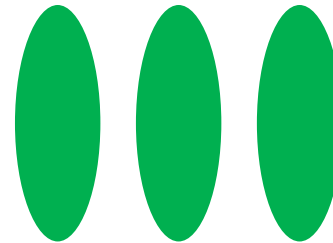
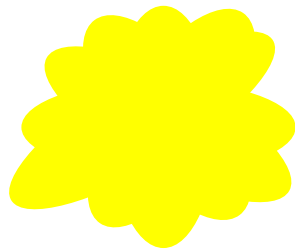


Examples of META PROFILES



Graphical Representation of Mechanical Engineering Meta - Profile





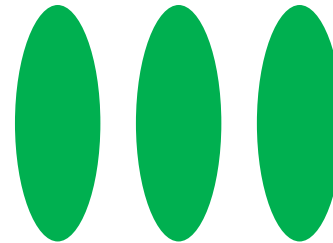
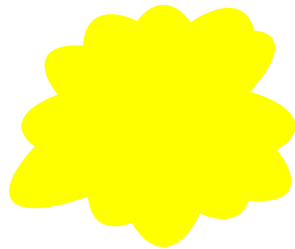
Meta profile

Degree profiles

Bridging between Meta-profile and reality:

the objective was to contrast the institutional current degree profile with the Meta-profile agreed within each subject area group. This process allowed to reflect on the coincidences and differences and to start the institutional validation.

Bridging between Meta-profile and reality



Meta profile

Degree profiles

Analyze the degree profile comparatively with the Meta-profile agreed:

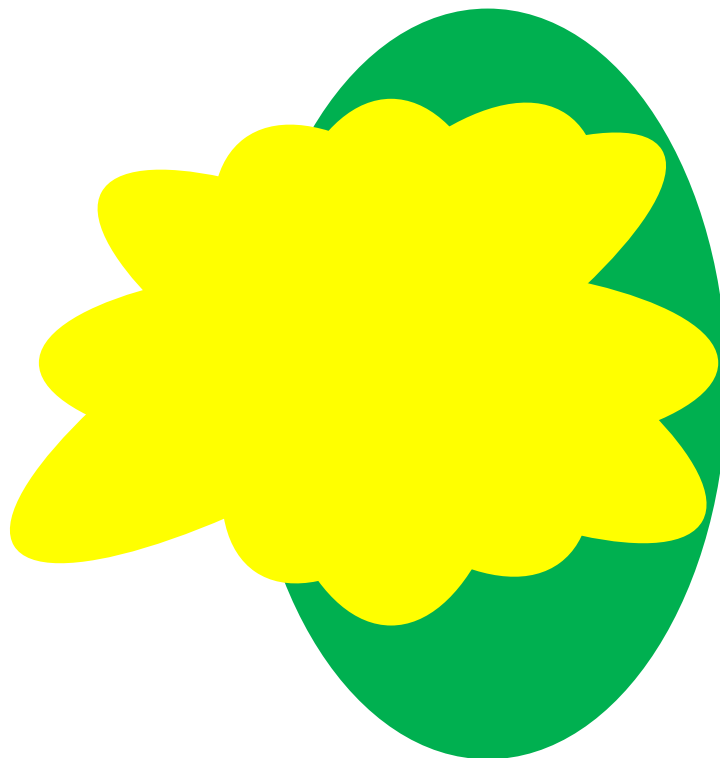
- Identifying coincidences
- Focusing on those elements that differ
- Analyzing the weight of the different dominant elements: *Are there elements which are not considered in the degree profile of my university? And which would be the explanation and justification for these differences?*

Bridging between Meta-profile and reality



Degree profile
University A

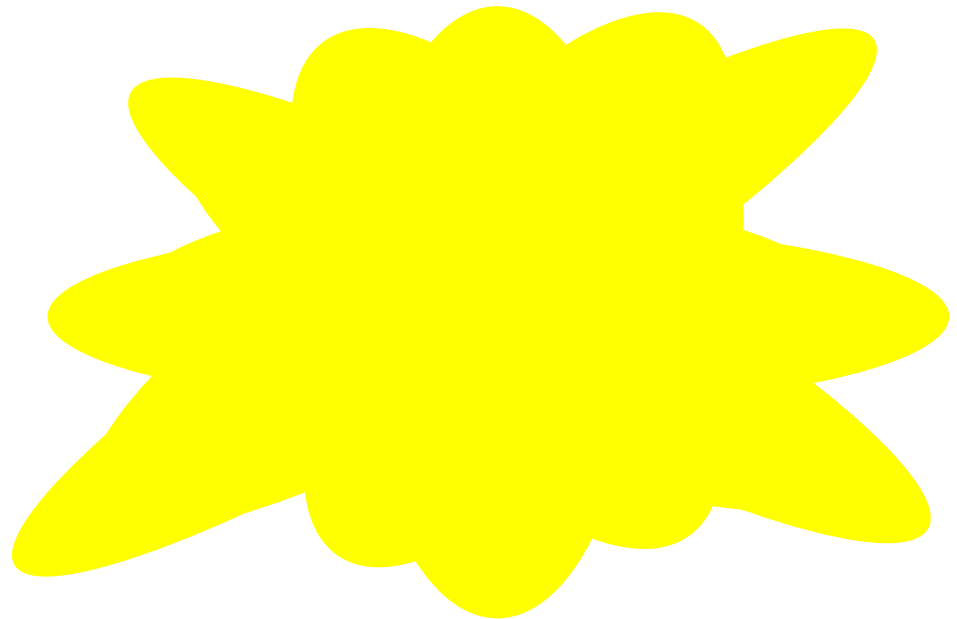
Bridging between Meta-profile and reality

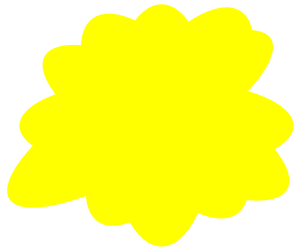


Degree profile
University B

Meta profile

**Review the meta-profile
taking into consideration
the results of the
institutional reports**



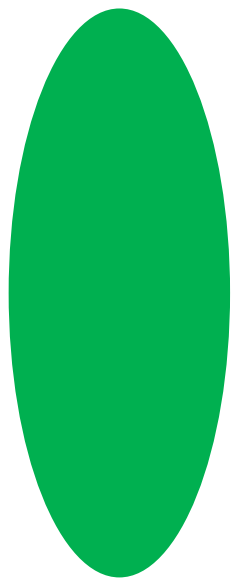


Meta profile

Degree profile

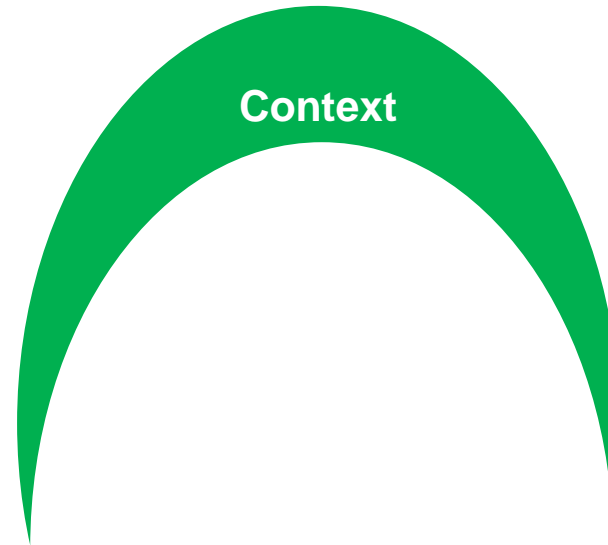
Revision/elaboration of a degree profile (related to the meta-profile agreed)

Revision/elaboration of a degree profile (related to the meta-profile agreed)



The **Degree Profile** is a brief document designed to convey the essential information about a specific degree programme. The Degree Profile describes, in terms of **competences and learning outcomes**, what graduates will know, understand and be able to do after successful completion of the programme.

Formulating is a collaborative work, and provides added value in terms of greater awareness of the precise nature of the degree and thereby enables better coordination of the degree programme itself.



The **Degree Profile** takes into consideration the professional and social needs at the local- regional or national level for which it is built



Each University has a set of strengths on which to build

Each university has a mission to fulfill

Profiles bear the mark of the University where they originated



Meta-profile

**The Profile gains capacity for
being recognized through the
Meta-Profile**

Context



Context

**University
Strengths**

