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11 februari 2019

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7633

Referentie
International MSc in Sustainable and Innovative Natural Resource Management

DOMEINSPECIFIEKE LEERRESULTATENKADER

Kwalificatie : International Master of Science in Sustainable and Innovative Natural Resource Management

Datum validatie : 11 februari 2019

Studiegebied : Toegepaste Biologische Wetenschappen & Toegepaste Wetenschappen
(ISCED: 042)

Niveau :

o Vlaamse Kwalificatiestructuur	7
o Codex Hoger Onderwijs	Master
o Europese Hoger Onderwijs Ruimte (Dublin-descriptoren)	2 ^e cyclus
o Europees Kwalificatiekader voor een Leven Lang Leren	7

Domeinspecifieke leerresultaten

Knowledge competencies:

1. Have a broad knowledge on the entire value chain and its different components, as well as on the environmental, technical, social and economic problems that may arise from waste emissions and a scarcity of raw materials, related to increasing urbanisation and population growth;
2. Have systematic and applied insights in techniques for qualitative and quantitative exploration and physicochemical characterisation of resources present in the environment, and in different physical and (bio)chemical processing technologies and industrial processes to extract resources from ores, solid, liquid and gaseous waste materials, generated throughout the value chain, and transform them into valuable products;
3. Be able to apply techniques to assess long-term sustainability and environmental impacts of novel and existing products and processes, and evaluate them against international standards;

4. Have insights in factors affecting the sustainable supply of raw materials and (technological) solutions for optimising material flows in the different parts of the value chain, and be able to compare them, taking technical and economic aspects as well as social and environmental impacts into account;
5. Be able to select, apply and develop innovative technologies for optimising material flows in the value chain, with a particular focus on resource exploration, sustainable extraction processes, sustainable materials use, and/or resource recovery from waste, taking the industrial process context into consideration.

Value judgments and sustainability competencies (EIT OLO 1)

6. Identify the short- and long-term future consequences of plans and decisions along the entire value chain from an integrated scientific, economical, ethical and intergenerational perspective, and merge this into a solution-focused approach, moving towards a sustainable society;
7. Have awareness regarding global and long-term dimensions of sustainability and a capacity to identify sustainability issues at local, regional and global scales, involving different stakeholder perspectives;
8. Assess risks related to different approaches that can be used to increase resource sustainability in the value chain, develop scenarios and mitigation strategies, and assess environmental and social impacts, as well as technical and economic feasibility of these approaches and strategies.

Entrepreneurship skills and competencies (EIT OLO 2)

9. Translate innovations into feasible business solutions, by taking into account all aspects involved, such as the development and evaluation of business models, value proposition, societal aspects, stakeholder perspectives, upscaling insights, health and safety and other operational aspects.

Creativity skills and competencies (EIT OLO 3)

10. Think beyond the boundaries of a single (research) domain or economic sector, and systematically explore and generate new ideas to evolve towards a more sustainable society.

Innovation skills and competencies (EIT OLO 4)

11. Use knowledge, ideas and technology to create new or significantly improved products, services, processes, policies, new business models or jobs.
12. Express openness to innovative scientific developments and their applications in a broad scientific, economic and social context.

Research skills and competencies (EIT OLO 5)

13. Identify new and remaining bottlenecks, knowledge gaps and research questions related to sustainable resource management along the entire value chain, based on knowledge, insights and experience, and to assess the importance and magnitude of a problem from different stakeholder perspectives and define strategies for intervention.
14. Develop a research protocol based on the analysis of existing evidence, set up a research plan, consult specialist literature, collect, critically analyse and interpret data, present the findings, and discuss them in a multidisciplinary context.
15. Use cutting-edge research methods, processes and techniques towards new venture creation and growth and to apply these also in cross-disciplinary teams and contexts.

Intellectual transforming skills and competencies (EIT OLO 6)

16. Transform practical experiences into research problems and challenges, and transform fundamental concepts or technologies from one domain or part of the value chain to another domain or part of the value chain (lateral & transversal thinking).

Leadership skills and competencies (EIT OLO 7)

17. Have the ability to make decisions and show leadership, based on a holistic understanding of the contributions of higher education, research, and business to value creation, in limited sized teams and contexts.

Intercultural competences, social and communicative skills

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| 18. Have intercultural competences, social and communicative skills which are essential to work in an international team and communicate with stakeholders, take leadership positions in the academic as well as non-academic sector, and to collaborate with a variety of stakeholders involved in the raw materials supply chain. |
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Basis :

- Gelet op artikel 16, 17 en 18 van het decreet van 30/04/2009 betreffende de kwalificatiestructuur;
- Gelet op artikel II.68 van de Codex Hoger Onderwijs gecodificeerd op 11/10/2013;
- Gelet op het reglement van de Nederlands-Vlaamse Accreditatieorganisatie van 01/02/2011 betreffende de validatie van de gezamenlijke domeinspecifieke leerresultaten van hogeronderwijsopleidingen in de Vlaamse Gemeenschap;
- Gelet op de VLIR/VLHORA-handleiding 2012 betreffende het uitschrijven van domeinspecifieke leerresultatenkaders.