



Nature Based Solutions for Water and Land Management

Course syllabus

Welcome

Welcome to this online course on nature based solutions for water and land management. We have created, curated, and compiled content from a large number of worldwide experts that we hope is useful to you. The topics we cover were identified as part of a multi-stakeholder workshop we held at Cranfield University in 2019 with representatives from industry, academia, government and non-governmental organisations and are updated to reflect new needs and trends. Your feedback at any point is most welcome to help us improve and shape the course so it is most useful to you.

We use a variety of content, styles and formats. We have made every attempt to make this accessible to all, with closed captions in all video materials that you can enable with one click. Most of the material is “asynchronous”, which means you can work at your own pace. We have included weekly live sessions to try to help with integration of concepts and a sense of community with your peers and lecturers. We divide delegates in small groups for each of the live activities so we can interact better throughout the course and we try our best to incorporate time zone requirements. We have also built in a two-week break over Easter to enable you to have a rest and recharge, or catch up with the material if you so wish.

We are always happy to receive your emails with any comments, questions or concerns. The team will aim to reply to you within 48 hours during the week.

We look forward to meeting each of you as we share the next 8-16 weeks!

Gaby

Dr Gabriela Dotro
Course Director
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Course objectives

On successful completion of this course, you will be able to:

- Describe, contextualise and explain nature based solutions to technical and non-technical audiences,
- Quantify benefits from an economic, social and environmental standpoint,
- Recognise best practice and identify current limitations of nature based solutions,
- Identify trade-offs of key nature based solutions examples.

You will achieve these through a combination of lectures, case studies, written assignments, group workshops, and discussions with your peers and lecturers.



Schedule of Topics & Assignments

There are eight modules organised around a central topic. The activities are a combination of research, introspection, creative design, non-technical writing and online quizzes. In addition, you must hand in a final assignment by **14th June 2021**. You must submit all mandatory activities to the required standard for the award of the certificate of completion of this course. The estimated total time for the course is 80 hours (8 CPD credits).

Table 1. Summary of topics, activities and live sessions schedule

Module	Module Title	Topics	Date of live session
1	Introduction and Framework	Ecosystem services, natural capital, circular economy, climate change, NBS trade-offs and barriers.	Thursday 25 th February
2	Nature-based technologies	Treatment wetlands, sustainable drainage systems, green walls, green roofs, leaky barriers.	Thursday 4 th March
3	Integrating NBS in the urban environment	Applications in current and future cities, circular economy and urban NBS, green roofs case studies, green walls case studies, urban forests.	Thursday 11 th March
4	Integrating NBS in catchments	Natural flood management, modelling benefits at catchment scale, landscape connectivity and wildlife corridors, river restoration, peatland restoration, catchment nutrient balancing.	Thursday 18 th March
5	Tools for NBS schemes – Part 1	Ecosystem services quantification, technology assessments, developing a business case, the five and six capitals framework, water funds, pitching ideas.	Thursday 24 th March
EASTER BREAK 29th March – 9th April			
6	Tools for NBS schemes – part 2	Carbon accounting, biodiversity net gain, life cycle assessment, public engagement, co-design of solutions, identifying trade-offs.	Thursday 15 th April
7	Applications and innovations	Combined sewer overflows, nutrient (N and P) management, industrial wastewater treatment, micropollutants removal, intensified wetlands, managed aquifer recharge.	Thursday 22 nd April
8	Implementation and funding guidance	Barriers for implementation, funding requirements and sources, funding examples in Europe, bringing it all together considering others' perspectives.	Thursday 29 th April
9-16	Final Assignment due		14th June 2021