

Future Semester Certificate Programme

Specialisation: Circular Economy Management

Kamp-Lintfort and Bottrop, 5 November 2020

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Future Semester: Specialisation in Circular Economy Management

Sustainable, future-oriented, interdisciplinary

Have you already earned an undergraduate degree, but find you are not quite ready for a master's yet? Are you disappointed with the current job market as a new graduate? Would you like to enhance your résumé with additional qualifications and improve your long term career prospects? Then consider enrolling in the Future Semester certificate programme offered by Rhine-Waal and Ruhr-West Universities of Applied Sciences. Choose between several exciting specialization paths!

Are you intrigued by the field of sustainability and interested in a career where you can make meaningful contributions towards protecting the environment and improving social equality? Does the thought of studying effective resource management to reduce waste and preserve value sound appealing?

Then pursue a specialisation in Circular Economy Management!

What is Circular Economy Management about?

- Thinking in closed loops to ensure greater recyclability of products and materials: circular value chains instead of wasteful linear value chains.
- Re-envisioning the development and manufacturing of new products. Planning from the get-go how products can be used more effectively and for longer, and accounting for what happens after their life cycles.
- Using innovative technologies, processes and business models to close the product loops, ensuring longer term use of materials and reducing risk to both people and the environment.
- Considering possible future developments in the political, administrative and commercial conditions for "circular economies".
- Implementing a continuous improvement process and measuring progress towards a "circular economy" according to specific indicators.

What can you expect from a specialization in Circular Economy Management?

- You will learn the fundamental principles of circular (and not linear) value chains through real case studies, particularly with regard to goals, strategies and concepts, indicators and terminology, action areas and measures.
- You will on your own application-oriented project in the field of the Circular Economy individually or in a team, for example in cooperation with the research project *Prosperkolleg* (www.prosperkolleg.de).
- You will acquire a deeper understanding of select topic areas within the field of Circular Economy Management.
- You will have the opportunity to acquire additional professional skills in personal development, languages or IT.

Specialisation overview

Outcome	Professional training programme with certificate upon completion
Start	Winter semester and summer semester
Campus	Mülheim a. d. Ruhr, Bottrop, Kamp-Lintfort Note: courses in the winter semester 2020/21 will be held mostly online; exams for some modules may be held in-person.
Standard duration	1 semester (maximum 2 semesters)
Credits	25-30 Credits (generally over five modules)
Department / faculty	Faculty 1, Ruhr-West University of Applied Sciences Faculty of Communication and Environment, Rhine-Waal University of Applied Sciences
Admission requirements	Completed undergraduate degree from Rhine-Waal or Ruhr-West Universities of Applied Sciences
Admission restrictions	None. However, some modules may have limited capacities.

Learning Agreement

The Future Semester is a one-semester certificate programme offered jointly by Rhine-Waal and Ruhr-West Universities of Applied Sciences. It is not a degree programme, but rather a professional training programme that builds upon the knowledge and proficiency students acquired in their undergraduate studies at either of the aforementioned universities.

A total of 25-30 CP must be earned to successfully conclude the programme and be awarded a certificate for the chosen specialisation. This generally corresponds to five modules which must be passed at either Rhine-Waal or Ruhr-West Universities of Applied Sciences.

A Learning Agreement defining which five modules each student will complete will be concluded during the first four weeks of lectures. At least one module from each of the three elective areas (“Foundation”, “Project”, “Specialist Topics”) must be chosen. For the “Foundation” area, the module “Basics of Circular Economy Management” is particularly recommended.

Please also read and understand the **examination regulations** for the Future Semester programme, which are applicable to both universities.

Your contacts for **Learning Agreements** for the Circular Economy Management specialisation are:

Specialisation in Circular Economy Management	Rhine-Waal University of Applied Sciences	Ruhr-West University of Applied Sciences
Contents / Learning Agreement	Dr André Wenda Prof. Dr Irmgard Buder Prof. Dr Daniela Lud	Katrin Moskopp Prof. Dr Wolfgang Irrek

Students enrolled in the Future Semester programme will be granted admission to the corresponding university for the agreed-upon modules in the Learning Agreement.

Accordingly, a Learning Agreement is a mandatory requirement for registration in the chosen modules for both universities.

Please be aware that in some modules partial performance examinations (Teilleistungsprüfungen) may already occur in the first weeks of instruction. Thus we strongly advise you to conclude your Learning Agreements as soon as possible so that you do not miss any lectures.

Ineligible modules

When concluding your Learning Agreement please be aware that you cannot select modules that you have already passed during your undergraduate studies. As a rule of thumb: you cannot select a module which shares at least two-thirds of the learning outcomes of a module that you passed as an undergraduate.

Overview of modules in winter semester

Module	Short description	University	Capacity*
Elective area “Foundation” Conceptual fundamentals, strategies and areas of action of a circular value chain (Circular Economy) as compared to a linear value chain; circular economy indicators; relevant legal, political and social framework conditions and developments digitalisation of a circular economy; circular economy management as a continuous improvement process; reflection on common action with regard to environment and society.			
Grundlagen des Circular Economy Management	Ziele, Strategien und Konzepte, Indikatoren und Begrifflichkeiten, Handlungsfelder, Maßnahmen und Fallbeispiele einer zirkulären anstatt linearen Wertschöpfung	Ruhr-West	No limit
EE_W.06 Advanced Auditing and Certification Procedures	This module looks at different types of audits and certification as well as different approaches to assessing how sustainable and “green” alternatives really are.	Rhine-Waal	Max. 5
Umweltökonomie	Umweltökonomische Instrumente in der Wasser- und Energiewirtschaft: theoretische Grundlagen, exemplarische praktische Anwendungen und Bewertungen des Instrumenteneinsatzes	Ruhr-West	No limit
Elective area “Project” Independent development and execution of an application-oriented project in the field of circular economy, whether individually or in a team, ideally in cooperation with a relevant company and / or connected to ongoing research at either university.			
Studienarbeit EUT	Bearbeitung einer Projektaufgabe im Team mit Forschungs- und/oder Praxisbezug	Ruhr-West	Depending on capacity of prof.
Studienarbeit (im Bachelor Wirtschaftsingenieurwesen-Energiesysteme)	Bearbeitung einer Projektaufgabe im Team oder in Einzelarbeit mit Forschungs- und/oder Praxisbezug	Ruhr-West	Depending on capacity of prof.
Blue Science	Bearbeitung einer Projektaufgabe im Team mit Praxisbezug	Ruhr-West	Max. 7
Projekt 1 (im Master Informatik)	Bearbeitung einer Projektaufgabe im Team mit Forschungs- und/oder Praxisbezug	Ruhr-West	Depending on capacity of prof..

Module	Short description	University	Capacity*
Elective area “Specialist Topics”			
Exemplary focus on select topics from the field of circular economy management; in addition, a maximum of one module in a foreign language, career preparation, or IT.			
EE_5.01 Remediation and Redevelopment	In this module you will learn about sustainable land use, building healthy urban environments, and how contaminants in soil and groundwater can be remediated. When looking at remediation we will focus on sustainable technologies and using the subsurface as a “reactor”.	Rhine-Waal	max. 7
EE_5.02 Process Engineering	This module gives insight into chemical and bioprocess engineering. Chemical and biochemical processes are compared in terms of sustainability, efficiency, economical aspects and environmental impact.	Rhine-Waal	Limited in certain cases
Lebenszyklusmanagement von Bauwerken	Grundlegendes Verständnis von nachhaltigen Bauen; Lebenszyklusansatz für Bauwerke ab der Stufe der Bedarfsplanung	Ruhr-West	max. 5
Abfallwirtschaft	Abfall und Kreislaufwirtschaft, Abfallentsorgung und Abfallbehandlungsverfahren	Ruhr-West	No limit
Kommunikationsstrategien für technische Projekte und Innovationen	Einführender Überblick über Studien, Kommunikationsmodelle, strategische Herausforderungen, Berufsprofile und pointierte Beispiele zu dem Arbeitsfeld Ressourcen- und Klimaschutz.	Ruhr-West	No limit
Maximal eines der folgenden Angebote für den Einstieg in den Beruf oder im Bereich Sprachen oder Informatik:		Ruhr-West	Limited in certain cases
<ul style="list-style-type: none"> • Deutsch als Fremd- und Wissenschaftssprache • Englisch: Wirtschaftsenglisch I und II • Meet your clients and his expectations: Developing strategic concepts for Start Up Companies (English) • Weitere Fremdsprache (bereits startend im Oktober!): Chinesisch I oder II; Japanisch I; Russisch I oder II; Spanisch I oder II; Wirtschaftstürkisch für Muttersprachler • Persönlichkeitsentwicklung (Start bereits im Oktober) Vorbereitung auf den Berufseinstieg • Grundlagen der Informatik und Programmierung 			

* Maximum number of postgraduate students that can be admitted, depending on the number of undergraduate students in this module.

Overview of modules in summer semester

Module	Short description	University	Capacity*
Elective area “Fundamentals”			
Conceptual fundamentals, strategies and areas of action of a circular value chain (Circular Economy) as compared to a linear value chain; circular economy indicators; relevant legal, political and social framework conditions and developments digitalisation of a circular economy; circular economy management as a continuous improvement process; reflection on common action with regard to environment and society.			
Grundlagen des Circular Economy Management	Ziele, Strategien und Konzepte, Indikatoren und Begrifflichkeiten, Handlungsfelder, Maßnahmen und Fallbeispiele einer zirkulären anstatt linearen Wertschöpfung	Ruhr-West	No limit
Elective area “Project”			
Independent development and execution of an application-oriented project in the field of circular economy, whether individually or in a team, ideally in cooperation with a relevant company and / or connected to ongoing research at either university.			
Studienarbeit EUT	Bearbeitung einer Projektaufgabe im Team mit Forschungs- und/oder Praxisbezug	Ruhr-West	Depending on capacity of prof.
Studienarbeit (im Bachelor Wirtschaftsingenieurwesen-Energiesysteme))	Bearbeitung einer Projektaufgabe im Team oder in Einzelarbeit mit Forschungs- und/oder Praxisbezug	Ruhr-West	Depending on capacity of prof.
Blue Science	Bearbeitung einer Projektaufgabe im Team mit Praxisbezug	Ruhr-West	Max. 7
Projekt 1 (im Master Informatik)	Bearbeitung einer Projektaufgabe im Team mit Forschungs- und/oder Praxisbezug	Ruhr-West	Depending on capacity of prof.

Module	Short description	University	Capacity*
Elective area “Specialist Topics”			
Exemplary focus on select topics from the field of circular economy management; in addition, a maximum of one module in a foreign language, career preparation, or IT.			
EE_4.01 Resource Management and Environmental Health	The module looks at water as one of the most important environmental resources, particularly regarding the global water cycle and potential impacts of climate change. Basic concepts of toxicology and environmental health are combined with methods of risk management.	Rhine-Waal	Max. 7
EE_W.03 Innovative Solutions in Environment and Energy	The module provides basic knowledge in the areas of innovation, inventions, patents and knowledge management. You will get an overview of the various techniques and innovations in the field of renewable resources.	Rhine-Waal	Max. 7
Energie- und Umweltrecht	Grundlagen des allgemeinen Energie- und Umweltrechts, insbesondere nationale Rechtsstruktur hinsichtlich Klimaschutz, Immissionsschutz, Kreislaufwirtschaft, Wasser und Abfallrecht sowie Natur- und Artenschutz sowie Umweltstrafrecht.	Ruhr-West	No limit
Mechanische und thermische Verfahrenstechnik	Grundlegende Kenntnisse der mechanischen und thermischen Verfahrenstechnik, insbesondere ausgewählte Stoffumwandlungsverfahren, Stoff- und Wärmetransportvorgänge.	Ruhr-West	No limit
Biologische Prozess- und Chemische Reaktionstechnik	Grundlegende Kenntnisse der Biochemie und Grundbegriffe der chemischen Reaktionstechnik.	Ruhr-West	No limit
Nachhaltigkeit und Energieeffizienz	Typische Konstruktionen zu nachhaltigen und energieeffizienten Bauweisen; Zertifizierungssysteme.	Ruhr-West	No limit
Kommunikationsstrategien für technische Projekte und Innovationen	Einführender Überblick über Studien, Kommunikationsmodelle, strategische Herausforderungen, Berufsprofile und pointierte Beispiele zu dem Arbeitsfeld Ressourcen- und Klimaschutz.	Ruhr-West	No limit
Maximal eines der folgenden Angebote für den Einstieg in den Beruf oder im Bereich Sprachen oder Informatik:		Ruhr-West	Limited in some cases
<ul style="list-style-type: none"> • Deutsch als Fremd- und Wissenschaftssprache • Englisch: Advanced Technical English, Wirtschaftsenglisch I und II • Meet your clients and his expectations: Developing strategic concepts for Start Ups (English) • Weitere Fremdsprache: Chinesisch I oder II; Japanisch I; Russisch I oder II; Spanisch I oder II; Wirtschaftstürkisch für Muttersprachler • Persönlichkeitsentwicklung: Vorbereitung auf den Berufseinstieg • Datenbanken 			

* Maximum number of postgraduate students that can be admitted, depending on the number of undergraduate students in this module.