The Rhine-Waal University of Applied Sciences in Kleve and Kamp-Lintfort offers an innovative, international environment combined with first-rate teaching in interdisciplinary Bachelor and Master's degree courses, taught mainly in English. It is strong in conducting research in disciplines such as technology, natural sciences and social sciences. More than 7,500 students have already enrolled at the Rhine-Waal University of Applied Sciences.

The University of Applied Sciences has to award for the faculty Life Sciences in the bachelor´s degree courses Sustainable Agriculture, B.Sc. at the campus in Kleve in the winter semester 2020/2021 the following

Lectureship

within the meaning of Section 43 of the Law regarding the Universities in the State of North Rheine-Westphalia (HG NRW):

Reference number 27/LA/20
Subject area/Module: „Climate change and water management“

The lecturer shall take over the lecture in the amount of 4 lecturing hours in the module "Climate change and water management" (3rd semester) of the bachelor course Sustainable Agriculture, B.Sc.. The lectures shall be held in English.

Due to the current pandemic, lectures shall be held in a digital format and shall begin as of November 02, 2020.

Contents

Climate change: past climate change and the response of and effect on past societies; contrast, definition of weather and climate; energy budget of earth; natural greenhouse gases and their control and effect on climate; present climate zones; past climates in the history of earth and suspected factors involved with natural climate change; the climate system as part of the system earth; causes (forces) for and short-term and long-term controls on climate; the effect of feedback mechanisms on climate; anthropogenic climate change from population growth coupled with agricultural and industrial expansion; outlook for the future climate and basic concepts on climate control including change of agricultural present-day to future sustainable practise; tools and methods for climate impact assessment (e.g. carbon footprint, carbon offset)
Water management: fundamental knowledge about the properties of water and hydrological concepts; key technologies for water production, purification and treatment; sustainable water use and irrigation systems; integrated river management; water quality and risks; tools and methods for water use assessment (e.g. water footprint)

Learning objectives

On successful completion of this module, students should
- know the relevant factors controlling climate and the interaction and interdependence of these factors
- know the elements of the water cycle and water catchment management
- be able to outline and compute the key elements of irrigation and drainage systems

- know and understand natural and anthropogenic influences on our climate system
- comprehend the concept of modelling regional climate trends for agricultural purposes
- value water as a scarce resource and improve understanding of the importance of conserving water resources
- be able to relate changing environmental conditions to the effects on climate
- master fundamental laws and equations in hydrology and their application in typical water management situations
- be able to identify the most important procedures of water treatment and purification and appreciate their importance with regard to possible toxicological impact on human population
- be able to analyse conditions of agricultural practise in the context of climate change, limited conventional energy resources and growing world population
- be able to develop sensitivity and need for climate control based on past societal experiences
- be able to discuss options for sustainable agriculture in a world of limited natural resources
- be able to consider the social and ecological impact of professional decisions and thus deepen their capacity to engage in society

Requirements:

The lecturer shall have a corresponding university degree and have practical experience. Didactic skill and the ability to hold the course with an international group of students in the English language are required (the language level shall be C1 according to the European reference framework).

The Rhine-Waal University of Applied Sciences offers lectures a systematic networking with the university as well as the opportunity of a specific training development to ensure a sustainable skill improvement, a closely link between theory and practice and a support for the personal development of lectures.

It is asked to send in just copies of documents as these cannot be returned.

Please send your application via e-mail **stating the reference number and the module title** addressed to

Contact person:
Title Prof. Dr. Matthias Kleinke
E-mail: matthias.kleinke@hochschule-rhein-waal.de

For questions and further information please contact the mentioned contact person above.