Course Descriptions None 2021-2022

Course Title	Sustainability and Social-Ecological Systems
Course Code	EBC2187
ECTS Credits	5,0
Assessment	Whole/Half Grades

Period

Period	Start	End	Mon	Tue	Wed	Thu	Fri
1	30-8-2021	15-10-2021		X		X	

Level	Intermediate/Advanced
Coordinator	Yvonne van der Meer, Maud Huynen For more information:yvonne.vandermeer@maastrichtuniversity.nl; m.huynen@maastrichtuniversity.nl
Language of instruction	English
Goals	Students are able to: * understand key terms, concepts and principles related to (social-ecological) systems-thinking; * understand the complexities of (coupled) social-ecological systems; * apply system's thinking to key sustainability challenges, such as climate change, sustainable food systems and biobased/circular production systems; * reflect on the potential of interdisciplinary knowledge and understanding in the pursuit of sustainable social-ecological systems.
Description	Central to the pursuit of sustainable development is the integrated consideration of economic, social and environmental aspects. However, traditional scientific paradigms are based on reductionist thinking, which tries to understand things by taking them apart. In sustainability science, systems thinking is key to address the complex and interdependent nature of our coupled social-ecological systems. Many people recognize the need to transition to a sustainable and resilient society, but this requires new ways of thinking about and addressing complex problems. Widespread adoption of systems thinking is believed to be a precondition for making real progress towards sustainability, but few understand its' importance. Systems thinking is a process for understanding the interrelationships among the key components of a system. This course will introduce students to systems thinking and how it can be applied to understand sustainability problems and challenges of coupled social-ecological systems. Students will also become acquainted with (quantitative) sustainability impact assessment. After familiarizing themselves with key concepts, students will explore systems thinking across two areas: * Earth systems and coupled social-ecological systems: Students will explore biogeochemical cycles; climate systems feedbacks and climate tipping points; interlinkages between the climate systems and our food systems; resilience and adaptive sustainable food systems. * Rethinking production systems: Students will explore the transition to a biobased and circular economy through topics like materials from renewable resources, renewable energy systems, plastic waste scenarios, design for recycling, circularity concepts and energy in the built environment.
Literature	Reference list will be provided
Prerequisites	None
Keywords	
Teaching methods	PBL / Presentation / Lecture / Assignment / Groupwork
Assessment methods	Final Paper / Assignment / Presentation
Evaluation in previous academic year	For the complete evaluation of this course please click http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM

This course belongs to the following programme / specialisation

UM-wide minors	Minor Sustainability
SBE Non Degree Courses	Minor Sustainability