Course Descriptions None 2021-2022

Course Title	Sustainability Science
Course Code	SSP2031
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	Introductory/Intermediate
Coordinator	Annemarie van Zeijl-Rozema For more information:a.vanzeijl@maastrichtuniversity.nl
Language of instruction	English
Goals	* explain and apply the theories and concepts of sustainability science (social environmental systems, post-normal science, integrated approach, transdisciplinary, problem-driven) * recognize and reflect on ethical and normative aspects of sustainability science for policy making (fact-value distinction, perspectives, framing, democracy vs science, decision making and uncertainty) * understand the social element in the dynamics of problem definitions (framing, social complexity, multiple actors, perspectives) * use theories of problem structuring (wicked problems, structured, moderately structured and unstructured problems, evolution of problem structures) * name and understand and apply different roles of scientists in complex problems and their suitability in different contexts (Pure scientist, (stealth) issue advocate, science arbiter, honest broker, linear model of science, stakeholder/geological model) * understand and apply the concept of boundary work, its challenges and relevance in sustainable development (boundary work, boundary organization, boundary objects, salience, credibility, legitimacy) * understand and recognize the contract between science and society (contract science/society, credibility cycle)
Description	In the 1990s sustainability science emerged as a new field of science. Sustainability science is aimed at understanding and generating useful knowledge about sustainability problems through problem-focused analysis, integration, attention to cross-scale dimensions of human-environment interactions and boundary spanning at the interface of research and practice. This course investigates the field of sustainability science and in particular addresses the role of academic knowledge at the interface of science, society and policy. Understanding sustainability problems and different perspectives of problem understanding and problem solving will be discussed. In matters of sustainable development, policy making and scientific knowledge are entangled in many ways. Policy makers, for instance, will need scientific knowledge to justify and target their plans. Likewise, scientists hope their findings about sustainability are useful to society and will inform policy makers. In this course we will investigate the various ways in which sustainability science, society and policy making are intertwined or clash. Starting from the angle of policy, we will look into the nature of policy problems, which, in the case of sustainable development, often are ill-structured and open ended. From the angle of science, we will consider the different strategies open to scientists to make their knowledge useful. Attention will also be given to the ways in which the science 'system' is changing, in particular the shift from 'normal' to post-normal or transdisciplinary science. This raises pertinent questions about what knowledge is in the first place and its role in solving societal and policy problems. We will see that policy makers often want to know things that science cannot offer. An example is knowledge about creating acceptance of certain forms of steering. This is knowledge that science cannot provide, for the simple reason that acceptance of policy cannot be created through specialist knowledge. Neither can science resolve normative issues about abortion or the right to interfere with the earth's climate. When dealing with the future, the limits of knowledge become even greater. Furthermore, problem definitions may change over time, thanks to new actors and alternative ways of framing. This course will help to appreciate that "science does not compel action", that "science does not speak with one mouth", that facts and values are intertwined and that uncertainty is a constitutive element of knowledge. Different types of problems require different types of problem solving approaches. Only structured problems can be tackled through calculation and rule. In paying attention to issues of "puzzling and powering" in problem solving, the course prepares students for later work as sustainability professionals within government, business, science or intermediary organisations.
Literature	
Prerequisites	
Keywords	
Teaching methods	PBL / Lecture / Assignment / Papers / Groupwork / Coaching
Assessment methods	Final Paper / Written Exam / Assignment
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

Master Sustainability Science, Policy and Society	Compulsory Course(s)