# Course Descriptions None 2026-2027

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| 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 | 31-8-2026 | 16-10-2026 | | X | | X | |

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| Level | Intermediate/Advanced |
| Coordinator | Andrew Oringer For more information:a.oringer@maastrichtuniversity.nl |
| Language of instruction | English |
| Goals | Students are able to:<br>1.Explain the structure and functioning of Earth's biogeochemical cycles, trophic dynamics, and climate system, including how human activities disturb these systems through changes in stocks, flows, and feedback mechanisms.<br>2.Analyse the behaviour of coupled social-ecological systems using concepts of resilience, adaptive cycles, ecosystem services, and adaptive management.<br>3.Evaluate the environmental impacts of production and consumption systems using the planetary boundaries framework, Life Cycle Assessment logic, and circular-economy principles, and propose strategies to reduce those impacts.<br>4.Integrate knowledge from Earth-system science and production-system analysis to assess sustainability challenges in real world social-ecological systems using interdisciplinary reasoning. |
| 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, including how changes in stocks, flows, and feedback mechanisms drive system behaviour over time.<br><br>This course introduces students to systems thinking and how it can be applied to understand sustainability problems and challenges of coupled social-ecological systems. After familiarizing themselves with key concepts, students explore systems thinking across two interconnected areas. The first covers Earth systems and coupled social-ecological systems, including biogeochemical cycles, the climate system, trophic dynamics, and the principles of resilience, adaptive cycles, and ecosystem services. The second focuses on rethinking production and consumption systems, where students examine the planetary boundaries framework and explore the transition to a circular and biobased economy through topics such as value chain analysis, environmental impact assessment, and circularity principles. Throughout the course, students work towards integrating knowledge from both areas to assess real-world sustainability challenges in social-ecological systems using interdisciplinary reasoning. |
| Literature | Reference list will be provided |
| Prerequisites | Exchange students who wish to register for courses within the Minor Sustainability should contact the International Relations Office (IRO) via iro-incoming-sbe@maastrichtuniversity.nl.<br><br>Incoming exchange students at SBE can choose to:<br>* follow the complete Minor Sustainability programme; or<br>* register for selected parts of the minor only.<br><br>Full Minor Options<br>Students can choose between the following options:<br>* Full minor excluding the Project Sustainability course (25 ECTS)<br>Students will be registered for all courses within the minor except the Project Sustainability course.<br>* Full minor including the Project Sustainability course (30 ECTS)<br>Students will be registered for all courses within the minor, including the Project Sustainability course.<br><br>Partial Minor Options<br>Students who only wish to follow specific parts of the minor can choose from the following options:<br><br><u>Period 1 package (12.5 ECTS)</u><br>Registration includes the following courses:<br>* Sustainability and Social-Ecological Systems (EBC2187, 5 ECTS)<br>* Sustainability and Human Health (EBC2188, 5 ECTS)<br>* Systems Thinking Competency (EBS2074, 2.5 ECTS)<br><br><u>Period 2 stand-alone courses</u><br>* Social and Sustainable Entrepreneurship (EBC2189, 5 ECTS)<br>* From Climate Conflict to Climate Justice (EBC2190, 5 ECTS)<br>These courses may be taken independently, without registering for other courses within the minor.<br><br><u>Period 2 combined option (7.5 ECTS)</u><br>Students may register for the skills course:<br>* Collaboration Competency: Exploring Negotiation and Conflict Resolution (EBS2075, 2.5 ECTS)<br>only in combination with:<br>* From Climate Conflict to Climate Justice (EBC2190, 5 ECTS)<br>Together, these courses amount to 7.5 ECTS.<br><br>Please note that exchange students have already received additional information about the Minor Sustainability and the available registration options in the course registration email. Students are advised to read this information carefully before applying. |
| Keywords | |
| Transitional Regulations | |
| Teaching methods | PBL / Presentation / Lecture / Assignment / Groupwork |
| Assessment methods | Written Exam / 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 | | |
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| | UM-wide minors | Minor Sustainability |
| | SBE Exchange Bachelor | Minor Sustainability |
| | SBE Exchange Master | Minor Sustainability |
| | SBE Non Degree Courses | Minor Sustainability |