

Week 1 Introduction and start of Module Sustainability and Governance

Date Time	Topic Literature/assignments	Lecturer / Guest speaker	Location
Monday 5 September 09.00 – 09.30 09.30 – 10.15 10.15 – 10.30 10.30 – 11.15 11.15 – 11.45 11.45 – 12.45 12.45 – 13.30 13.30 – 15.30	Signing in, picture taking Opening and Welcome speech Coffee & Tea General Introduction to the minor Group picture Oration ‘circular economy as a recipe for sustainability’ 26 February 2016 Lunchtime (you can buy lunch at the canteen) Discussion groups: Sustainability propositions	Minor coordinator Lucas Simons (NewForesight) Ellen Cieraad /Marloes van Kuppevelt Marloes van Kuppevelt Arnold Tukker Arnold Tukker	E001 Van Steenis building
Tuesday 6 September	TRIP NOORDWIJKERHOUT STAYOKAY HOSTEL		
Wednesday 7 September Afternoon	TRIP NOORDWIJKERHOUT STAYOKAY HOSTEL Start Self Study Literature (see Thursday)		
Thursday 8 September 12.00 – 12.30 12.30 – 15.00 Afternoon	Overview of the course Lecture: Introduction to Sustainable Development Self study: - Tukker et al. (2014) Global resource footprint of nations (15 pages text) - Tukker (2013) Beyond the Pyramid-economy, chapter in More! Of Marianne Thieme (8 pages) - Steffen et al. (2015) Planetary boundaries: Guiding human development on a changing planet (12p) <u>Optional:</u> - Brown, Outgrowing the Earth	Arnold Tukker Arnold Tukker	E004 Van Steenis Building
Friday 9 September 09.30 – 12.00 12.30 – 14.00 Afternoon	Lecture Stories of survival Lecture Indigenous People and Sustainability Self study: - Reader (1990) Chapter 1 on Yap (21 p) - Diamond (2005) Chapter 11 on Hispaniola (20p.) - Wilkinson (1973) Chapter 6 on the UK (24 p) - Tiffen et al. (1994) Chapter1 Machakos then and now and Chapter 11 conclusions (18 p) - Sobrevila, The Role of Indigenous Peoples in Biodiversity Conservation (2008) (90p)	Arnold Tukker Gerard Persoon	E001

Week 2 Module Sustainability and Governance

Date Time	Topic Literatuur / Opdrachten	Lecturer / Guest speaker	Location
Monday 12 September 09.30 – 11.30 11.45 – 12.45 afternoon	Paaseiland: sustainable development from a historical perspective Factors for Survival I: introduction Self study: - Malthus, an Essay on the Principle of Population (8p) - Homer-Dixon: Two centuries of debate (14p) Environment, Scarcity and Violence (1999) - Hardin, Tragedy of the Commons (5p) - Ostrom, Revisiting the Commons (5p) - Turner, Hyden, Kates: Population growth and agricultural change in Africa (5p) - Diamond (2005) Chapter 14: Why do Some Societies Make Disastrous Decisions (16 pages) - Boersema, Revisiting the Collapse of Rapa Nui (Easter Island) through a Voyage of 18th-Century Journals (2012) (15 p)	Jan Boersema Arnold Tukker	E001
Tuesday 13 September	Self study		
Wednesday 14 September 09.30 – 12.30 13.00 – 14.30 Afternoon	Factors for Survival II Footprint and other WWF strategies Preparation: Calculate your own footprint! (http://voetafdruktest.wnf.nl/) , in Dutch Self study literature (see Tuesday) - Living Planet Report 2014 WWF	Arnold Tukker Natascha Zwaal	E001
Thursday 15 September	Self Study		
Friday 16 September 09.30 – 10.30 10.30 – 12.00 12.30 – 14.00 14.00 – 15.00 Afternoon	Lecture IPBES How to come into action for sustainability Introduction Presenting Open session: if you have questions about writing the opinion paper Self study: - Hajer, The Energetic Society chapter 4 (p39-60) - Tukker, Butter (2006): Governance for sustainability- about the 4(0) ways to change the world (10 p) - Diaz et al., The IPBES Conceptual Framework — connecting nature and people	Peter van Bodegom Marjan Minnesma, <i>director Urgenda</i> Kick Moors Arnold Tukker	E001 B.302 (CML, 3rd floor Van Steenis)

Week 3 Module Sustainability and Governance

Date Time	Topic Literature/assignments	Lecturer / Guest speaker	Location
Monday 19 September 09.30 – 11.00 11.00 – 12.30 Afternoon	Sustainability: Trends in Corporate Social Responsibility and Ethical Consumption Sustainability and Governance Self study: - Tukker (2008): System innovation for Sustainability, chapter 22 (40 p)	Sabine Luning Arnold Tukker	E001
Tuesday 20 September	Uploading opinion paper to Blackboard before 18.00		

Week 3 Start Module Biodiversity

Date Time	Topic Literature/assignments	Lecturer / Guest speaker	Location
Wednesday 21 September 09.30 – 10.30 10.45 – 11.45 12.00 – 13.00 13.30 – 14.30 Afternoon	Lecture: Introduction Module Biodiversity Lecture: Theory of Biodiversity I (species) Lecture: Theory of Biodiversity II (populations & ecosystems) Lecture: Threats of biodiversity Self study: - Pereira et al. 2010; Mora et al. 2011	Krijn Trimbos Kees Musters Kees Musters Krijn Trimbos	E001
Thursday 22 September	Self study: - Miller (14th ed.) 3.1, 3.2, 4.1,4.2, 4.4 & 4.5 + review questions on core case studies of the relevant sections (= 22 pg. incl. questions) (<i>see literature System Earth & Climate Change</i>) - Millennium Ecosystem Assessment: Preface and Summary for decision makers (= 21 p.) - McDonald et al. 2013, Van der Velde 2013, Mitchell et al. 2014		
Friday 23 September 9.30 - 10.30 10.45 - 11.45 12.00 – 13.00 Afternoon	Lecture: The psychological experience of nature Lecture: Urban Biodiversity: Paradox or Paradigm? Presentation students: Pereira et al. 2010 Presentation students: Mora et al. 2011 Self study: - Van de Heide en Ruuijs 2010; Triall et al. 2007 - Admiraal (2013) <i>Ecological Economics</i> , 89, pp. 115-122. (8pg.) - Van Bodegom and Price: A trait-based approach to quantifying ecosystem services - Environmental law literature, to be determined	Henk Staats (LU) Rene van der Velde (TUD) Students	

Week 4 & 5 Module Biodiversity

Date Time	Topic Literature/assignments	Lecturer / Guest speaker	Location
Monday 26 September 09.30 - 10.30 10.30 - 11.30 11.30 - 12.30 13.00 – 13.30 Afternoon	Lecture: Ecosystem Services: combining economic values to ecological resilience Lecture: Ecosystem services: a tool to translate biodiversity and ecosystem functioning into policy relevant metrics Lecture: Biodiversity and ESS governance / Environmental Law Presentation students: Van de Heide en Ruuijs 2010 Self study: - White and Walker 1997, White 2013	Peter van Bodegom Peter van Bodegom Bibi Krot (HABITAT) Students	E001
Tuesday 27 September 9.30 – 11.30 11.30 – 12.00 12.00 – 13.00 Afternoon	Introduction to discussing & debating Debate instructions Presentation students: White and Walker 1997 Presentation students: White 2013 Self study: - Pletz et al. 2012 - Triall et al. 2007	Kick Moors Krijn Trimbos Students	Huygens zaal 204 Niels Bohrweg 2 (behind Gorlaeus building)
Wednesday 28 September 9.30 – 10.30 10.30 - 12.30 13.00 - 15.30	Presentation students: Pletz et al. 2012 Presentation students: Triall et al. 2007 Lecture: Ethical aspects of biodiversity / nature conservation Outside lecture – Experiencing nature	Students Matthijs Schouten (WUR) Li An Phoa (BEAR)	E001 Start van Steenis room E001
Thursday 29 September	Self study: Preparation of the pitch and literature reading about the statement		
Friday 30 September 09.30 – 12.00	Active discussion on biodiversity related statements Group 2A Group 2B	Kick Moors/Krijn Trimbos Ellen Cieraad/Hermen Visser	E001 E003B
Wednesday 5 October	Excursion ‘Meijendel’ a case of ecosystem restoration for biodiversity and Ecosystem Services	Bart van Engeldorp (Dunea)	

Week 5 Start Module System Earth & Climate Change

Date Time	Topic Literature / Assignments	Lecturer / Guest speaker	Location
Friday 7 October 09.30 – 10.00 10.00 – 12.00 12.30 – 14.30 14.30 – 16.30	Start module System Earth and Climate Change Intro module and brainstorm session climate change Lecture: Climate change The use of climate models in environmental policy Earth system geo-engineering/ (documentary BBC) including short discussion and instructions for the poster and pitches (debate)	Wil Tamis René Kleijn Andries Hof (PBL) Wil Tamis	E001

Week 6 Module System Earth & Climate Change

Monday 10 October 09.30 – 10.00 10.00 – 12.00 12.30 – 13.00	Presentation paper by students (gr. 1) Film: The Great Global Warming Swindle ¹ Short discussion on film Presentation paper by students (gr. 2)	students Wil Tamis students	E001
Tuesday 11 October	Self study: reading Obligatory literature from Blackboard (folder course documents/folder Obligatory literature) and preparing pitches		
Wednesday 12 October 09.30 – 10.00 10.00 – 12.00 12.30 – 13.00 13.00 – 15.00 15.00 – 17.00	Presentation paper by students (gr. 3) Lecture: Energy fluxes Presentations paper by students (gr. 4) Lecture: Energy Lecture: Complex systems and biogeochemical cycles	students René Kleijn students Gert Jan Kramer (UU) Nadia Soudzilovskaia	E001
Thursday 13 October	Self study: continuation reading and preparing pitches		
Friday 14 October 09.30 – 10.00 10.00 – 12.00 12.30 – 13.00 13.00 – 15.00	Presentation paper by students (gr.5) Lecture: Resources and scarcity Presentation paper by students (gr. 6) Lecture: Introduction lecture to GIS workshop	students René Kleijn students Maarten van 't Zelfde	E001

¹ Please prepare yourself to watch the film “An inconvenient truth” from Al Gore.

Week 7 Module System Earth & Climate Change

Date Time	Topic Literature / Assignments	Lecturer / Guest speaker	Location
Monday 17 October 09.30 – 10.00 10.00 – 12.00 12.30 – 13.00 13.00 – 15.00	Presentation paper by students (gr. 7) Lecture: Resources: impacts and linkages Presentation paper by students (gr. 8) Lecture: Geopolitics and scarcity of resources	students René Kleijn students Michel Rademaker (HCSS) t.b.c.	E001
Tuesday 18 October	Self study: continuation reading and preparing pitches		
Wednesday 19 October 09.30 – 12.30 13.00 – 16.00	GIS practical / lab: Introduction to ARCGIS 10 - Plotting species distributions on a map part II GIS practical / lab: Introduction to ARCGIS 10 - Plotting species distributions on a map part II	Maarten van 't Zelfde / Wil Tamis Maarten van 't Zelfde / Krijn Trimbos	GIS-room F101
Thursday 20 October	Self study: continuation reading and preparing pitches and exam		
Friday 21 October 09.30 – 12.30	Pitches and debates on Earth system geo-engineering, see instructions manual and Blackboard Group 1A Group 1B	Kick Moors/Wil Tamis Hermen Visser/ CML teacher	E001 E003B

Week 8 Module Economy & Technology – life-cycle approaches to sustainability

Date Time	Topic Literature/assignments	Lecturer / Guest speaker	Location
Monday 24 October 09.30 – 10.30 <i>10.30 – 10.45</i> 10.45 – 11.45 <i>11.45 – 12.00</i> 12.00 – 13.00 <i>13.00 – 13.30</i> 13.30 – 14.30 <i>14.30 – 14.45</i> 14.45 – 15.45 15.45 – 16.00	Introduction to the module & “story of stuff” <i>Break</i> Economy, technology and environment relations <i>Break</i> Brainstorm on Packaging <i>Lunch-break</i> Introduction to LCA <i>Break</i> Mapping global trade Wrap-up & Introduction to the role-play game	Sebastiaan Deetman Sebastiaan Deetman Laurant van Oers Valentina Prado Sebastiaan Deetman	E001
Tuesday 25 October	Reading: literature on the Roundtable on Sustainable Palm Oil + Preparation for the role-play game	Students	
Wednesday 26 October 09.30 – 10.30 <i>10.30 – 10.45</i> 10.45 – 11.45 <i>11.45 – 12.00</i> 12.00 – 15.30 <i>15.30 – 15.45</i> 15.45 – 16.00	Influencing palm oil policy, theory and practice <i>Break</i> RSPO Pitches <i>Break</i> Role-play game: policy negotiations <i>Break</i> Summary & Outlook	Willemijn de Jongh <i>(Guest speaker, Oxfam)</i> Students Supervision: SD, LvO Sebastiaan Deetman	E001 E001/ F104
Thursday 27 October		Students	
Friday 28 October 09.30 – 10.30 <i>10.30 – 10.45</i> 10.45 – 11.45 <i>11.45 – 12.00</i> 12.00 – 13.00 <i>13.00 – 13.30</i> 13.30 – 14.30 <i>14.30 – 14.45</i> 14.45 – 15.45 15.45 – 16.00	Redefining progress: Historical context <i>Break</i> Redefining progress: Environmental management <i>Break</i> Redefining progress: Obstacles of change <i>Lunch-break</i> Sustainable industrial transformations (pt I) <i>Break</i> Sustainable industrial transformations (pt II) Summary & outlook	Ludo van Oyen/ Rob Boeree <i>(Guest speakers, Energiek Leiden)</i> Arjan de Koning	E001

Week 9 Module Economy & Technology – life-cycle approaches to sustainability

Date Time	Topic Literature/assignments	Lecturer / Guest speaker	Location
Monday 31 October 09.30 – 10.30 <i>10.30 – 10.45</i> 10.45 – 11.45 <i>11.45 – 12.00</i> 12.00 – 13.00 <i>13.00 – 13.30</i> 13.30 – 14.30 <i>14.30 – 14.45</i> 14.45– 15.45 15:45 – 16:00	Redefining progress: Forces in favour <i>Break</i> Redefining progress: Hopeful examples <i>Break</i> Introduction to scenarios towards 2050 <i>Lunch-break</i> Backcasting scenarios: the ‘Bulgarian’ lifestyle <i>Break</i> Forecasting scenarios: 9 Billion people by 2050 Intro to the assignment: Scenarios & Storylines	Ludo van Oyen/ Rob Boeree Sebastiaan Deetman Arjan de Koning Sebastiaan Deetman	E001
Tuesday 1 November	Group assignments (whole day!!) Suggested meeting schedule: 9.00-10.00: action plan + division of tasks 16.00-17.30: drafting of presentation	Students	
Wednesday 2 November 09.30 – 10.30 <i>10.30 – 10.45</i> 10.45 – 11.45 <i>11.45 – 12.00</i> 12.00 – 13.00 <i>13.00 – 13.30</i> 13.30 – 15.00	Presentations & discussion: scenario assign. <i>Break</i> Presentations & discussion: scenario assign. <i>Break</i> Scenario evaluation & role of tools <i>Break</i> Positive scenario’s	Students Supervision: SD, LvO Sebastiaan Deetman	E001
Thursday 3 November	Self study / preparation for exam		
Friday 4 November 09.30 – 09.45 09.45 – 10.30 <i>10.30 – 10.45</i> 10.45 – 11.30 <i>11.30 – 11.45</i> 11.45 – 12.30 <i>12.30 – 12.45</i> 12:45 – 13:30 <i>13:30 – 14:00</i> 14:00 – 15:00	Introduction to the theme of the day Measuring impacts of consumption in Sweden <i>Break</i> Renewable energy: Biosolar systems <i>Break</i> Sustainable Food Systems <i>Break</i> Modelling the carbon uptake of a tree <i>Lunch-break</i> Wrap-up & Response session	Sebastiaan Deetman Betram de Boer (PhD student) Coen van der Giesen (PhD student) Angelica Mendoza (PhD student) Anne Uilhoorn (PhD Student) SD, LvO, AdK	E001