



# Exchange programme Vrije Universiteit Amsterdam

Vrije Universiteit Amsterdam - Exchange programme Vrije Universiteit Amsterdam - 2024-2025

## Exchange

Vrije Universiteit Amsterdam offers many English-taught courses in a variety of subjects, ranging from arts & culture and social sciences, neurosciences and computer science, to economics and business administration.

The International Office is responsible for course approval and course registration for exchange students. For details about course registration, requirements, credits, semesters and so on, please [visit the exchange programmes webpages](#).

# Designing Solutions for Global Sustainability

Course Code	AB_1231
Credits	6
Period	P3
Course Level	300
Language Of Tuition	English
Faculty	Faculty of Science
Course Coordinator	dr. M. Werthschulte
Examiner	dr. M. Werthschulte
Teaching Staff	dr. M. Werthschulte, mr. T. van Huyssteen MSc
Teaching method(s)	Seminar, Lecture

## Course Objective

This course aims to guide the student in designing solutions to complex challenges in global sustainability, within their own field of interest (e.g., energy, climate, water, waste, nature, food security, gender).

## Course Content

The course comprises interactive lectures and exercises and is assessed through an assignment. After this course students:

- Can meaningfully integrate People-Planet-Profit analyses into the design of innovative solutions for global sustainability challenges in a systematic and creative manner;
- Can characterize key components of the design creation process, namely analysis, synthesis and conceptualization;
- Identify and apply methods and processes to design sustainable solutions and communicate the results in a convincing and credible manner;
- Demonstrate a capacity to collaborate in interdisciplinary teams and contribute to a shared goal;
- Reflect on personal strength and weaknesses in developing and conceptualizing global sustainable solutions.

## Additional Information Teaching Methods

The course is organized in three thematic weeks and a fourth closing week, which follow the logic of a design process, sequentially addressing:

1. Design analysis and design specification (week 1)
2. Ideation: going through the creative design process of innovation, development, and actualization (week 2)
3. Conceptualisation and evaluation, user empathising, and visualisation for product / service pitching (week 3)
4. Completion: final presentation and review of the sustainability solution, and personal reflection (week 4).

Each week starts with a main lecture on Monday followed by two working sessions on Wednesday and Friday. The Wednesday session evolves mainly around Peer-to-Peer exercises while the Friday session will allow for more Peer-to-Teacher interaction. To accommodate the latter, two teachers will be present in the class-room on Friday. The working sessions and lectures will be highly interactive, for which there is a lot of space to work and reflect on your assignment.

## Method of Assessment

The final course grade is completely based on an individual assignment, consisting of a pitch and a final report. To pass the course, students must obtain an overall grade of at least 5.5 (out of 10) and contribute to the compulsory activities. To calculate the overall grade, grades of the individual elements are averaged using the weights above.

## Entry Requirements

This course welcomes students of any background, as long as they have a strong affinity with sustainability challenges.

## Literature

### Week 1:

1. Tim Brown and Jocelyn Wyatt (2010). Design Thinking for Social Innovation. Development Outreach 12(1): 29 – 43 [https://doi-org.vu-nl.idm.oclc.org/10.1596/1020-797X\\_12\\_1\\_29](https://doi-org.vu-nl.idm.oclc.org/10.1596/1020-797X_12_1_29)
2. Rikke Friis Dam and Yu Siang Teo (2019) 5 Stages in the Design Thinking Process. Interaction Design Foundation. <https://www.interaction-design.org/literature/article/5-stages-in-the-de>
3. Tassoul, M, & Buijs, J. (2007). Clustering: An Essential Step from Diverging to Converging. Creativity and innovation management 16(1): 16-26. DOI:10.1111/j.1467-8691.2007.00413.x. (focus on page 16 – 22) <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8691.2007.00413.x/epdf>

### Week 2:

4. Tom Ritchey (2002 - revised 2013) General Morphological Analysis: A general method for non-quantified modelling. Swedish Morphological Society. 1-10. <http://www.swemorph.com/pdf/gma.pdf>
5. Hsiao, S. W., & Chou, J. R. (2004). A creativity-based design process for innovative product design *International journal of industrial ergonomics*, 34(5), 421-443. <https://doi.org/10.1016/j.ergon.2004.05.005>
6. Tassoul, M, & Buijs, J. (2007). Clustering: An Essential Step from Diverging to Converging. Creativity and innovation management 16(1): 16-26. DOI:10.1111/j.1467-8691.2007.00413.x. (focus on page 22 – 26). <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8691.2007.00413.x/epdf>

### Week 3:

7. Pruitt, J., & Grudin, J. (2003). Persona's, practice and theory. DUX '03 Proceedings of the 2003 conference on Designing for user experiences: 1-15. <https://www.microsoft.com/en-us/research/wp-content/uploads/2017/03/prui>
8. Chiara Diana, Elena Pacenti, Roberta Tassi (2009). Visual'tiles', Communication tools for (service) design, Conference Proceedings ServDes.2009; DeThinking Service; ReThinking Design; Oslo Norway 24-26 November 2009. <http://www.ep.liu.se/ecp/059/006/ecp09059006.pdf>
9. sSWOT: Eliot Metzger, Samantha Putt del Pino, Sally Prowitt, Jenna Goodward, Alexander Perera (2012). sSWOT: a sustainability swot user's guide. World Resources Institute (WRI). Washington DC. <https://sustainabilitycasestudies.files.wordpress.com/2015/12/sustainabi>

## Additional Information Target Audience

This course is predominantly aimed at students that are following the ERM pre-master or the minor Sustainability: Global Challenges, Interdisciplinary Solutions. These students already worked on their personal "Grand Challenge" in the previous courses of this minor/pre-master and therefore have a head start in working on their solution. However, the course also welcomes students that did not follow these programs, although it may be more challenging for them as they need to catch up quickly in the first week of this condense course.

## Additional Information

When students from other universities want to register for this course, they may be asked to which programme this course/minor belongs. Kindly fill the BSc program "Aarde, Economie & Duurzaamheid".

## Recommended background knowledge

We strongly encourage students to take all courses of the minor "Sustainability, Global Challenges, Interdisciplinary Solutions", as a personal "Grand Challenge" comes back in different assignments of the five minor courses. Work in the preceding courses forms relevant input to the assignment of this course.