



# 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](#).

# Sustainable Business Processes

Course Code	E_MFS_SBP
Credits	6
Period	P2
Course Level	300
Language Of Tuition	English
Faculty	School of Business and Economics
Course Coordinator	dr. ir. D.A.M. Inghels
Examiner	dr. ir. D.A.M. Inghels
Teaching Staff	S. Hülögü, dr. ir. D.A.M. Inghels
Teaching method(s)	Lecture, Study Group

## Course Objective

After successfully completing the course Sustainable Business Processes you are able to

- Analyse business and societal problems taking into account the interests of different stakeholders (economic, ecological, societal, and others)
- Quantify the economic, ecological, and societal objectives for business process cases and find optima using multi-objective linear optimization
- Apply systems thinking using System Dynamics to examine the dynamic behaviour of business and societal processes
- Understand the transition from a linear to a circular economy and its implications for managing business processes
- We put emphasis on applying the methodologies to real-life cases

## Course Content

This course aims to introduce students to operationalizing sustainability in business and societal problems. We define sustainability as the combined economic, environmental, and social optimum of business process alternatives that take into account constraints, such as technological limits or legislation, also known as the triple bottom line (TBL) approach of People-Planet-Profit optimization. Life Cycle Assessment (LCA) is presented as a methodology to quantify the environmental impact of products and processes and Analytic Hierarchy Process (AHP) to quantify social impact. Multi-Criteria Decision Analysis is introduced as a concept to operationalize the TBL approach for practical business process problems.

Next, we discuss systems thinking using Systems Dynamics for understanding and evaluating the complex and interactive behavior of systems, such as sustainable supply chains. Finally, the transition from a linear to a circular economy and its effects on business processes is discussed.

## Additional Information Teaching Methods

12 Lectures and 6 computer tutorials of each 2 hours

## Method of Assessment

Written exam – Individual assessment;  
Two written assignments – Group assessment that may be corrected depending on the individual contribution

## Entry Requirements

Students should have a basic knowledge of business processes or operations management and business mathematics. Students are expected to have a basic understanding of MS Excel before the start of the course.

## Literature

#### Mandatory readings:

- Inghels, D. (2020). Introduction to Modeling Sustainable Development in Business Processes - Theory and Case Studies. Springer Nature Switzerland AG. Online: <https://www.springer.com/gp/book/9783030584214#aboutBook>
- Fiksel, J. (2015). Resilient By Design: Creating Businesses That Adapt and Flourish 35 in a Changing World, ISBN: 978-1-61091-684-4 (Print) 978-1-61091-588-5 (Online), Online: <http://link.springer.com.vu-nl.idm.oclc.org/book/10.5822/978-1-61091-588>

#### Additional Information Target Audience

This course is part of the Minor Sustainability and Innovation.

#### Additional Information

During the course, models will be built using software tools. Students should be interested in applying mathematics using software tools. Moreover, working out two written assignments in groups appeals to your commitment to contributing to the success of the group result.