| INFO PAPER

M.Sc. Sustainability Management

Drive a more sustainable business world

"Companies are increasingly looking for sustainability experts who can apply the right levers along the entire value chain."

– Prof. Dr. Thomas S. Lontzek, Academic Director

| INTRODUCTION

Sustainability Expertise and Management Skills

The comprehensive curriculum of the M.Sc. Sustainability Management will provide you with cutting-edge knowledge to meet the challenges of climate change, changing consumer behavior, resource scarcity, as well as tightening political, environmental, and climate targets in a business-oriented context. In the compulsory modules, you will first get a global overview of the subject. You step into energy systems and markets, related data analysis and data management, technological innovations, and scientific contexts. In our exciting labs and elective modules, you have the opportunity to focus on your personal interests and dive deeper into the fields of data or innovation and technology.

What´s in it for You?

Essentials | **30 CP**

Deep Dive Electives | **20 CP**

Master Thesis | **20 CP**

Focus Lab | **10 CP**

Soft Skills | **10 CP**

What´s in it for You?

SEMESTER 1

Compulsory Courses

- Sustainable Technologies & Innovation
- Energy Systems & Markets
- Earth System Science
- Sustainable Business Practices
- Sustainability Analytics
- Data & Information Management

SEMESTER 2

Electives

Labs (choose 1)

- Analytics Lab
- Technology & Innovation Lab

Deep Dive Electives (choose 4)

- Life Cycle Assessment
- Sustainable Production
- Sustainable Consumer Behaviour
- Ethics & Behaviour in Organizations
- Development Analytics
- Sustainable Operations & Logistics

SEMESTER 3

Compulsory Courses

- Strategy & Sustainability
- Negotiating Sustainability

MASTER THESIS

Build up in-depth
Expertise

By completing six modules in the three core areas of „Physical Basis and Technologies," „Transformation," and „Analytics," you will gain in-depth knowledge that will transform you a true sustainability expert.
All modules are worth 5 CP.

Energy Systems & Markets

Get introduced to the drivers of energy markets and their development.

You will learn about the specific characteristics of energy markets and the physical, technological, environmental, and geopolitical particularities of energy sources and products. After completing this module, you will be familiar with the key terms and modelling concepts used to describe complex interactions in the energy system.

– Prof. Dr. Aaron Praktiknjo

Sustainable Technologies & Innovation

Gain first-hand knowledge on recent technological developments towards sustainability.

After successfully completing this module, you will understand key technologies from a company´s perspective, critically reflect their strengths and weaknesses and know how to develop a roadmap to transform a company by implementing these technologies.

– Dr. Christina Dienhart, Prof. Dr. David Antons

Earth System Science

See the „big picture" of global change.

Explore the fundamental processes at the interface of the atmosphere, biosphere, and geosphere and connect your knowledge of natural systems with anthropogenic impacts on micro to global scales. In this way, you will better understand global challenges such as climate change or the loss of biodiversity and discover solutions.

– Prof. Dr. Michael Leuchner

Sustainable Business Practices

Gain in-depth knowledge about economic, environmental, and social sustainability perspectives.

This course provides a case- and/or research-based introduction to sustainable business practices. Upon successful completion, you will be able to derive recommendations for the future design and development of organizations striving for sustainability and know how to communicate with different stakeholders to drive the change.

– Dr. Christina Dienhart, Prof. Dr. David Antons

Sustainability Analytics

Learn how to collect, analyze and process data in order to support business decision making.

Technologies to process huge amounts of data have advanced tremendously over the past years. In this module, you will get familiar with core concepts and methods of business analytics and learn how to identify relevant data for sustainability projects and goals.

– Prof. Dr. Thomas S. Lontzek

Data & Information Management

Understand the specifics of environmental data and their analysis techniques.

In this module, you will acquire in-depth knowledge of internal and external representations of environmental data in particular in the dimensions space and time, and get an overview of environmental data analysis techniques, including spatial econometrics.

– Prof. Dr. Sven Müller

Labs: Set Your Individual Focus

Choose one of two exciting, hands-on labs and focus on real-life use cases from business partners of our ecosystem. The lab is worth 10 CP.

Technology and Innovation Lab: Develop a Roadmap for Change

Solve real-world challenges that companies are facing on their journey towards sustainability.

The Technology and Innovation Lab trains you in the qualitative analysis of use cases, their constraints and the perspectives of different stakeholders. To optimally prepare you for the job market, you will work with real business partners and advise them on their actual path to greater sustainability. In this way, you will gain the necessary skills to take a leading role in successful sustainability and innovation projects and to adopt different perspectives. You will learn how to convince people of sustainable change and develop skills in scientific communication.

– Prof. Dr. Frank Piller, Prof. Torsten-Oliver Salge PhD, Prof. Dr. David Antons, Dr. Christina Dienhart

Analytics Lab: Transform Data into Sustainable Decisions

Apply your newly-gained theoretical knowledge in the field of data analysis to real-world use cases.

The Analytics Lab presents exciting applications of descriptive, predictive, and prescriptive analytics for sustainability management. You will learn state-of-the-art methods of data-driven decision making and work and hands-on with real-world data and problems. With the help of case studies and interactive simulations, you will learn how to recommend actionable strategies and develop sustainability management decision support systems. Participating in the Analytics Lab will help you stand out in a competitive job market.

– Prof. Dr. Thomas Lontzek, Prof. Dr. Michael Schneider, Prof. Dr. Sven Müller, Prof. Dr. Britta Peis

Become a True Specialist

Choose four of six Deep Dive Electives to optimally deepen your knowledge and getting ready for your dream job in a specific application area. Each module is worth 5 CP.

Sustainable Production

This module is currently still in the conception phase.

Physical Basis and Technologies

Life Cycle Assessment (LCA)

Evaluate environmental impacts at all stages of the life cycle of a product, process, or service.

This module will introduce you to core structure and concepts of life cycle assessment and the corresponding ISO standardization. You will know about existing LCA software tools and databases and understand how to interpret the results of third-party LCA studies.

Physical Basis and Technologies
– Prof. Dr. Niklas von der Aßen

Sustainable Consumer Behavior

Take a look at key challenges in the domains of sustainability, social fairness, and individual well-being.

Upon completion of this module, you will have enjoyed an introduction to ethics and moral principles, as well as a consideration of the legal foundations of our society. With this knowledge, you will then discover how consumers behave in the marketplace and the influence that politics, markets, and individual behavior have on purchasing decisions.

Transformation
– Prof. Dr. Daniel Wentzel

Ethics & Behavior in Organizations
Understand the ethical dilemmas in a corporate environment.

This module focuses on the relationship between various ethical aspects and management decisions in organizations. You will take an external perspective and discuss the demand for corporate social responsibility from a stakeholders perspective. You will also consider internal perspectives by analyzing key incentive structures for fairness and management decisions within an organization. Finally, you will focus on the role of labor relations and the employee's right to participate in decision-making processes.

Transformation
– Prof. Dr. Christian Grund, Prof. Dr. Christine Harbring

Sustainable Development
Become familiar with essential economic concepts like those related the SDGs.

In this module you will gain a broader understanding of sustainability in the context of economic growth. The UN Sustainable Development Goals (SDGs) are one conceptual basis for this. In addition, you will deal with the influence of political and social issues on the economy, such as poverty, natural resources, migration or population growth.

Analytics
– Prof. Dr. Oliver Lorz

Sustainable Operations & Logistics
Take a look at strengths and challenges of implementing sustainable logistics operations in a company.

Upon successful completion of this module, you will understand the basic concepts of logistics, operations management and sustainability. You will dive into different sectors such as freight transportation or warehousing and explore quantitative analysis methods to support business decisions in this specific area. Take a look at the impact of logistics on emissions and the relationship between cost efficiency and sustainability.

Analytics
– Prof. Dr. Michael Schneider

Master Thesis: Getting Ready to Drive the Change

Your final thesis completes your study adventure.
Create a moment of pride and look forward to a meaningful future.

By writing your master thesis, you will learn how to independently approach and work on an academic topic, document your progress, and finalize the entire project within a given deadline. You will acquire the skills to systematically analyze a challenging research question. The final dissertation is worth 20 CP.

Quick **Facts**

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🎓	Degree	Master of Science RWTH Aachen University
🌐	Language	English
📅	Duration	3 Semesters
💳	Costs	30.000 EUR*
🐦	Early Bird	3.000 EUR Discount until January 15
▶	Start	October 1 of Each Year

*plus semester fee from RWTH Aachen University

Admission Requirements

- a first degree completed
- a minimum of 10 CP in mathematics and statistics
- at least one year of professional work experience
- English language proficiency

Application

Our online application portal is open from October 1 until March 01 for all applicants with a degree from a non-EU country and until August 31 for all applicants with a degree from an EU-/EEA-country. Our application process is entirely online and there is no application fee.

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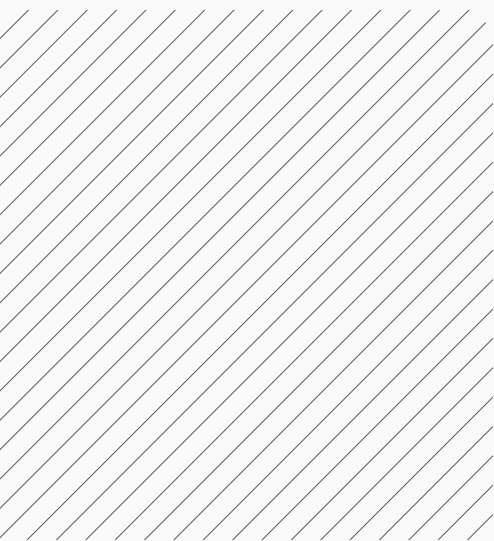
Any questions?
We are happy to advise you!

Student Recruitment Team

master@business-school.rwth-aachen.de

+49 241 80 20010