



STEINBEIS SCHOOL
of Sustainable Innovation
and Transformation

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**DIPLOMA OF
ADVANCED STUDIES**

Responsible Data Science

**Navigating Green and Digital Transition
through Data-Driven Solutions**

In Partnership with:





Overview

In the swiftly changing digital world only two enduring constants persist - Data is rapidly generated, and business success is now measured by the ability to extract value from it. This urges organizations to adapt and adopt new data-centric technologies and strategies. But the process of transformation is nonetheless twin transformative and requires incorporation of ESG Principles into the everyday business practices in order for companies to stay relevant for investors.

92%

of organizations report that they are realizing measurable business benefits from their data and AI Investments.

13%

of workers have been offered training opportunities to upgrade their AI skills.





Further along in the journey of successful transformation, the crucial element of the entire equation lies in **people and their proficiency in problem-solving**. This is further emphasized by latest progressions that not only underscore the importance of data literacy among employees but also highlight the necessity for roles such as **Chief Decision Scientist** or expertise in **Prompt Engineering**. This changes the recent digital transformative pattern since the most successful and valuable data experts are not just individuals with strong technical skills; but the ones that are showcasing expertise in tasks such as identifying and implementing tailored solutions to specific problems, efficient project management and compelling data storytelling.



Responsible Data Science Program offers a comprehensive set of essential skills tailored for data-centric career trajectories. With an inclusive approach that requires no prerequisites, the program expertly navigates you through the realms of **Data Literacy, ESG Data and Principles, and cutting-edge Problem-solving strategies**, all seamlessly applicable to the intricacies of your business challenges. Each track is accompanied by examples derived from digitally driven industries, ensuring a dynamic and insightful learning experience.

Twin Transition

The Twin Transition strategy combines digital innovation and sustainability, with dual primary objectives centered on harnessing technological advancements to propel sustainability goals and optimize workflow efficiency. The Responsible Data Science Program champions this paradigm by emphasizing the responsible, sustainability-oriented, and socially beneficial applications of Data Science and Artificial Intelligence.

Who is this program for?

This program is tailored for emerging leaders who are:

Acknowledging the importance of Twin Transformation and wish to leverage data and digital culture to steer decisions across their organizations towards strategic solutions.

Aiming to use Data combined with ESG Principals for effective decision-making in order to develop resilient ESG digital culture, optimize operational processes and sustain competitiveness through newly shaped digital approach.

Intending to launch technical projects or those already occupying positions that mandate a mindset prioritizing digital aspects to spreadhead digital transformation within their organizations.

Do you need Coding experience? – NO!

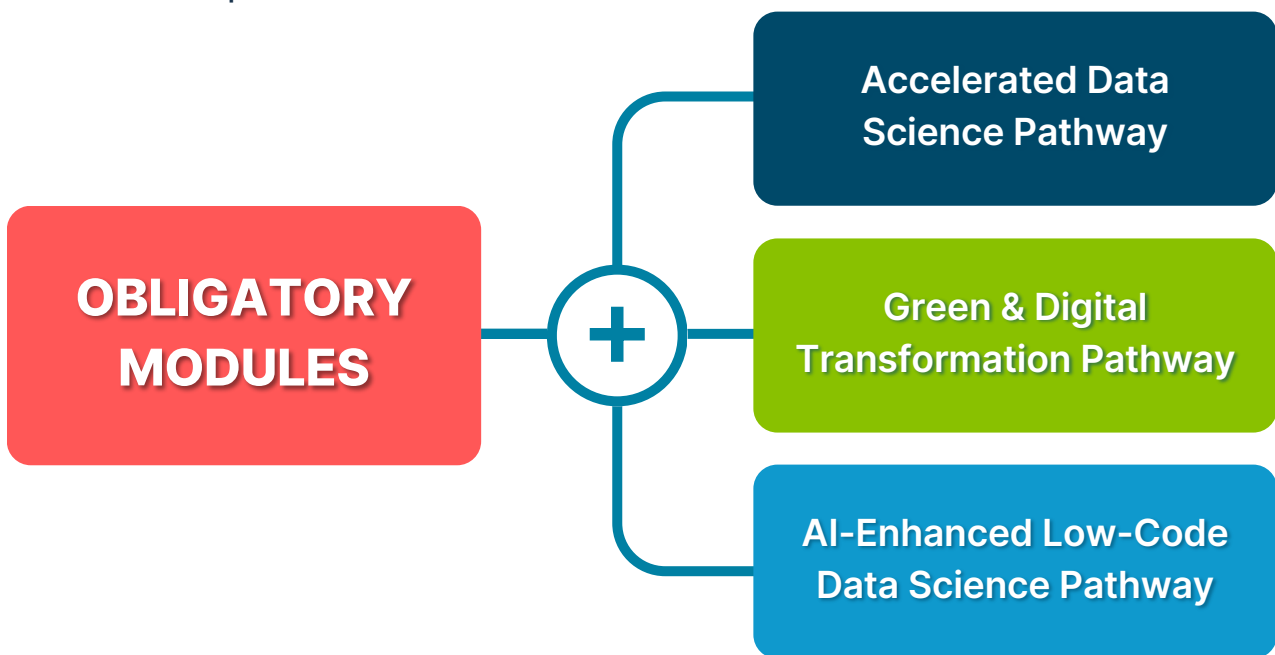
While SIT's Responsible Data Science Program does require you to learn some basic coding in Python, **no prior coding experience is required** to join this program. Our foundational modules will give you an overview of statistics and Python.

Program Scheme

This Diploma of Advanced Studies (DAS) program is designed to address the rapidly evolving fields of artificial intelligence, digital innovation, emerging low-code technologies, and corporate sustainability reporting requirements. As organizations increasingly integrate these developments into their operations, there is a growing need for professionals who can combine strategic understanding with practical implementation skills.

The curriculum is designed to leverage these opportunities while maintaining a pragmatic approach and a strong foundation in core principles. Its flexible structure allows for continuous adaptation to evolving industry needs, diverse learning and career pathways, and future developments.

Aligned with this objective, the program is structured around **five mandatory modules** that lay the groundwork for **three distinct pathways**, offering participants the choice to specialize.



Additionally, **optional self-paced modules** will be available, offering participants the opportunity to delve deeper into their respective fields and prepare for specific project roles at their own pace.

Program Curriculum

Obligatory Modules

Module 1 - Data Driven Organizational Transformation

- Introduction to Green and Digital Transition
 - Building a Data-Driven Organization
 - Translate business problems into data hypotheses
 - Explore and describe datasets with visualization
 - Excel Fundamentals + statistics of a data set
 - Data Storytelling + Performance Metrics
 - Master data visualization techniques with Tableau user
 - Data Analysis visualization using Microsoft Power Bi
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Module 2 - Data Science Foundations: ESG Data Centered

- Coding essentials with ESG data
 - Essential SQL Skills
 - Basic Python - practiced on ESG related Data
 - Statistical Foundations: Inferential Statistics
 - SPSS Statistics-analyse
 - Application of AI-techniques in enhancing data analysis and decision-making processes
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Module 3 - Digital Responsibility: Sustainable Practices & Regulations

- Integrative Responsible Management
- Compliance and Responsibility
- Ethics in Data Science
- Corporate Digital Responsibility and AI Alignment
- Sustainable Finance Regulation (CSRD, SFDR, EU)
- ESG Data
- EU AI Act
- Disruptive technologies as opportunity for Sustainable Finance

Pathway 1

Accelerated Data Science

Module 4 (Pathway 1) - Accelerated Data Science

- Introduction to supervised learning: Regression, Classification, Decision trees
 - Introduction to unsupervised Learning: Clustering
 - Model evaluation
 - Identify the current and potential applications of DL, ML, and AI
 - Artificial Neural Network and Deep Learning
 - Python Programming Advanced
 - Data Scientist with Python Libraries
 - Advanced SQL Skills
 - Introduction to LLM models
 - Prompt engineering
 - Open AI in Azure
 - Gemini in Google cloud
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Pathway 2

Green & Digital Transformation

Module 4 (Pathway 2) - Green & Digital Transformation

- Introduction to supervised learning: Regression, Classification, Decision trees
 - Introduction to unsupervised Learning: Clustering
 - Model evaluation
 - Identify the current and potential applications of DL, ML, and AI
 - Artificial Neural Network and Deep Learning
 - Python Programming Advanced
 - Data Scientist with Python Libraries
 - Advanced SQL Skills
 - Introduction to LLM models
 - Prompt engineering
 - Open AI in Azure
 - Gemini in Google cloud
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Pathway 3

AI-Enhanced Low-Code Data Science

Module 4 (Pathway 3) - AI-Enhanced Low Code Data Science

- Foundations of AI - Understanding the roles of algorithms, models, and data in AI applications
- Generative AI and Prompt Engineering
- Cloud-based AI Services - Open AI in Azure, Gemini in Google Cloud, Microsoft Copilot Studio, Azure AI Studio
- Low-Code and No-Code Solutions
- Introduction to supervised learning: Regression, Classification
- Decision trees
- Introduction to unsupervised Learning: Clustering
- Model evaluation
- Identify the current and potential applications of DL, ML, and AI
- Artificial Neural Network and Deep Learning



Optional Self-Paced Modules

API Integration & Development

Cloud Development Foundations

Applied Deep Learning

Data Governance

Digital Compliance



Our Approach

At Steinbeis School of Sustainable Innovation and Transformation (SIT), our forward-thinking triple transformation approach is at the heart of what we do. We seamlessly combine green, digital, and social/cultural elements, aiming to solve complex issues with holistic solutions.



Green + Sustainable Transformation

Together, we navigate the vast world of sustainability knowledge. We curate, create where gaps exist, and strategize the transfer for maximum impact.



Digital Transformation

Collaboratively, we venture through evolving tech landscapes. We intertwine digital and deep tech, such as AI and DLT, merging them with sustainable practices for leaps into the future.



Social + Cultural Transformation

By appreciating each person's unique value, we strive for a harmonious world. Prioritizing well-being, equality, and respect, we collaboratively nurture cultures of responsibility. maximum impact.





The Steinbeis Advantage

The Steinbeis School of Sustainable Innovation and Transformation (SIT), affiliated with Steinbeis University GmbH, is dedicated to the provision of distinguished educational programs and the provision of guidance in the domains of innovation and transformation within the field of sustainable management.

Steinbeis University, one of Germany's largest private universities, was founded in 1998 by the Steinbeis Foundation. Renowned as a leading global technology transfer network with over 5,000 experts, the Foundation boasted a revenue of over 156 million Euros in 2020.

SIT emerges as a **Talent Accelerator Organization (TAO)**, distinguishing itself from conventional educational models by emphasizing skills and competencies acquisition and career-relevant learning.

SIT is located in the Steinbeis House in Berlin. This cutting-edge facility is nestled among some of the world's most prestigious universities and innovation hubs and provides an excellent position to explore the unique entrepreneurship ecosystem of Berlin. This strategic location enhances our ability to offer a unique educational experience that is deeply integrated with the latest in technological advancements and industry trends.



Learning Methodology

At the core of this Diploma program is the belief in the need for holistic solutions, encapsulated in the Triple Transformation framework, which blends green, digital, and social/cultural dimensions

The core SIT team boasts nearly 15 years of continuous dealing with sustainable management education and innovation inside the Steinbeis university framework and has cultivated a deep understanding of the current gaps and opportunities. This insight enables us to adeptly **navigate complexities and, in some scenarios, unlock exponential benefits.**

Our approach facilitates the integration of advanced technologies and leverages a profound understanding of sustainable finance flows, enriched with insights into EU policy and regulatory frameworks. Equally crucial is emphasis on fostering learning, working, and living environments that are agile, innovative, and open.

Moreover, being designed from the outset as a talent accelerator organization **enables to form cohesive learning community that continuously grows and challenges the current paradigm** in order to stay relevant in the rapidly evolving educational and technologic landscape. We see all of us as potential catalyst for change, with our mission to offer **comprehensive expertise to drive digital, sustainable, and equitable transformation.**

Partnerships

Tailored Solutions for Companies

Our tailored solutions extend to various areas, including project completion, employee upskilling/reskilling, talent sourcing, and continuous training. We are committed to a client-centric approach, ensuring that our offerings are meticulously adapted to meet each company's unique requirements.

Companies partnering with us can expect customized services that address specific needs, providing them with impactful solutions tailored to their business goals.

Articulating the Value Proposition

We articulate the benefits companies can gain from our services with utmost clarity. These include enhanced sustainability practices, digital innovation, and access to specialized knowledge in ESG and data. Our services are designed to align with the strategic goals and capacities of the companies, ensuring a comprehensive partnership that supports their overall vision and objectives.

1

Enhanced Sustainability

Our services aim to enhance the sustainability practices of companies by implementing innovative and tailored solutions.

2

Digital Innovation

We provide access to specialized knowledge in ESG and data, enabling companies to stay at the forefront of digital innovation.

3

Specialized Knowledge

Companies can benefit from access to expertise in ESG and data, providing them with a competitive edge within their industry.



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