Master's Level Leadership

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This curriculum prepares learners to provide advanced leadership for large-scale sustainability transformations, conduct applied research, and influence industry practices.

EQF Level 7 | 110.5 ECTS | 22 Modules | Work-Based Learning: 1105 hours

# Programme Overview

**Role Focus:** Executive and system-level leadership

**Target Audience:** Senior leaders and experts seeking master's level expertise in strategic sustainability leadership and large-scale transformation management

**Learning Approach:** EQF Level 7 professional development program with 110.5 ECTS, combining theoretical knowledge with practical application through structured learning and workplace integration.

# Assessment Framework

**Primary Method:** Master's level leadership demonstration

**Assessment Components:**

**• Applied research project:** 40%

**• Large-scale transformation leadership:** 35%

**• Industry practice contribution:** 25%

**Rationale:** Master's level programs require applied research contribution and demonstrated large-scale leadership impact

# Delivery Framework

|  |  |
| --- | --- |
| Total Contact Hours | 685 hours |
| Self-Study Hours | 951 hours |
| Work-Based Hours | 1105 hours |
| Work-Based Learning | Integrated |

# Module Structure

## Module 1: Introduction to Digital Sustainability

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| --- | --- |
| ECTS Credits | 0.5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 12.5 hours |
| Contact Hours | 3 hours |
| Self-Study Hours | 4 hours |
| Workplace Hours | 5 hours |

**Description:** Core sustainability concepts and their intersection with technology systems for digital professionals

### Learning Outcomes:

**Knowledge:** Pioneer new approaches to foundational concepts of introduction to digital sustainability and their application to organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Lead transformational professional application of introduction to digital sustainability to support executive and system-level leadership in organizational contexts.

**Competence:** Lead strategic transformations of professional responsibilities involving introduction to digital sustainability while ensuring professional standards and stakeholder value.

## Module 2: Sustainable Digital Transformation Strategy

|  |  |
| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Develop holistic strategies for sustainability-focused digital transformation

### Learning Outcomes:

**Knowledge:** Establish methodological analytical frameworks for sustainable digital transformation strategy within executive and system-level leadership contexts within sustainability applications.

**Skills:** Create breakthrough professional application of sustainable digital transformation strategy to support executive and system-level leadership in organizational contexts.

**Competence:** Shape industry practices through professional responsibilities involving sustainable digital transformation strategy while ensuring professional standards and stakeholder value.

## Module 3: Systematic Innovation for Sustainability Challenges

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| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 7 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Apply structured innovation methodologies to develop breakthrough sustainability solutions

### Learning Outcomes:

**Knowledge:** Create original implementation strategies for systematic innovation for sustainability challenges in organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Establish new practices in technical implementation of systematic innovation for sustainability challenges to support executive and system-level leadership in organizational contexts.

**Competence:** Influence sector-wide professional responsibilities involving systematic innovation for sustainability challenges while ensuring professional standards and stakeholder value.

## Module 4: Ethics and Governance in Digital Innovation

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| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Evaluate ethical implications of digital systems and ensure inclusive governance

### Learning Outcomes:

**Knowledge:** Synthesize multi-disciplinary evaluation methodologies for ethics and governance in digital innovation relevant to executive and system-level leadership within sustainability applications.

**Skills:** Innovate solutions for ethical governance of ethics and governance in digital innovation to support executive and system-level leadership in organizational contexts.

**Competence:** Drive systemic change in professional responsibilities involving ethics and governance in digital innovation while ensuring professional standards and stakeholder value.

## Module 5: Sustainability Frameworks and Standards

|  |  |
| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Overview of major sustainability frameworks, regulations, and standards

### Learning Outcomes:

**Knowledge:** Conceptualize advanced integration approaches for sustainability frameworks and standards within organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Research and develop management strategies for sustainability frameworks and standards to support executive and system-level leadership in organizational contexts.

**Competence:** Lead strategic transformations of leadership responsibilities for sustainability frameworks and standards while ensuring professional standards and stakeholder value.

## Module 6: Sustainable ICT Procurement and Policy

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| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Develop policies and practices for sustainable technology procurement

### Learning Outcomes:

**Knowledge:** Pioneer new approaches to optimization principles for sustainable ict procurement and policy in executive and system-level leadership within sustainability applications.

**Skills:** Lead transformational management strategies for sustainable ict procurement and policy to support executive and system-level leadership in organizational contexts.

**Competence:** Shape industry practices through leadership responsibilities for sustainable ict procurement and policy while ensuring professional standards and stakeholder value.

## Module 7: Applied Ethics in AI for Sustainability

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| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Address ethical considerations in AI applications for sustainability challenges

### Learning Outcomes:

**Knowledge:** Establish methodological strategic applications of applied ethics in ai for sustainability for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Create breakthrough ethical governance of applied ethics in ai for sustainability to support executive and system-level leadership in organizational contexts.

**Competence:** Influence sector-wide professional responsibilities involving applied ethics in ai for sustainability while ensuring professional standards and stakeholder value.

## Module 8: Sustainability Assessment and Benchmarking

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| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Evaluate organizational sustainability performance against relevant benchmarks

### Learning Outcomes:

**Knowledge:** Create original advanced methodologies for sustainability assessment and benchmarking within executive and system-level leadership within sustainability applications.

**Skills:** Establish new practices in professional application of sustainability assessment and benchmarking to support executive and system-level leadership in organizational contexts.

**Competence:** Drive systemic change in professional responsibilities involving sustainability assessment and benchmarking while ensuring professional standards and stakeholder value.

## Module 9: Work-based Sustainability Project

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| --- | --- |
| ECTS Credits | 10 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 250 hours |
| Contact Hours | 62 hours |
| Self-Study Hours | 87 hours |
| Workplace Hours | 100 hours |

**Description:** Apply sustainability knowledge in real-world workplace settings

### Learning Outcomes:

**Knowledge:** Synthesize multi-disciplinary specialized knowledge of work-based sustainability project for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Innovate solutions for management strategies for work-based sustainability project to support executive and system-level leadership in organizational contexts.

**Competence:** Lead strategic transformations of leadership responsibilities for work-based sustainability project while ensuring professional standards and stakeholder value.

## Module 10: Circular Economy and Lifecycle Thinking

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| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Analyze product lifecycles and propose circular redesign strategies

### Learning Outcomes:

**Knowledge:** Conceptualize advanced specialized knowledge of circular economy and lifecycle thinking for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Research and develop professional application of circular economy and lifecycle thinking to support executive and system-level leadership in organizational contexts.

**Competence:** Shape industry practices through professional responsibilities involving circular economy and lifecycle thinking while ensuring professional standards and stakeholder value.

## Module 11: Digital Circular Business Models

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| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Design business models that leverage digital technologies for circular economy

### Learning Outcomes:

**Knowledge:** Pioneer new approaches to specialized knowledge of digital circular business models for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Lead transformational professional application of digital circular business models to support executive and system-level leadership in organizational contexts.

**Competence:** Influence sector-wide professional responsibilities involving digital circular business models while ensuring professional standards and stakeholder value.

## Module 12: AI for Sustainable Decision-Making

|  |  |
| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 7 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Using AI tools to support sustainability decisions in organizations

### Learning Outcomes:

**Knowledge:** Establish methodological specialized knowledge of ai for sustainable decision-making for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Create breakthrough data-driven approaches to ai for sustainable decision-making to support executive and system-level leadership in organizational contexts.

**Competence:** Drive systemic change in professional responsibilities involving ai for sustainable decision-making while ensuring professional standards and stakeholder value.

## Module 13: Data Ethics and Governance in Practice

|  |  |
| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Implement ethical data governance approaches for sustainability initiatives

### Learning Outcomes:

**Knowledge:** Create original specialized knowledge of data ethics and governance in practice for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Establish new practices in data-driven approaches to data ethics and governance in practice to support executive and system-level leadership in organizational contexts.

**Competence:** Lead strategic transformations of professional responsibilities involving data ethics and governance in practice while ensuring professional standards and stakeholder value.

## Module 14: Collaborative Tools for Green Innovation

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| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Leverage collaborative platforms to drive sustainable innovation processes

### Learning Outcomes:

**Knowledge:** Synthesize multi-disciplinary specialized knowledge of collaborative tools for green innovation for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Innovate solutions for professional application of collaborative tools for green innovation to support executive and system-level leadership in organizational contexts.

**Competence:** Shape industry practices through professional responsibilities involving collaborative tools for green innovation while ensuring professional standards and stakeholder value.

## Module 15: Large Language Prompt Design for Sustainability Data Science

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| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Design effective prompts for large language models applied to sustainability data contexts

### Learning Outcomes:

**Knowledge:** Conceptualize advanced specialized knowledge of large language prompt design for sustainability data science for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Research and develop data-driven approaches to large language prompt design for sustainability data science to support executive and system-level leadership in organizational contexts.

**Competence:** Influence sector-wide professional responsibilities involving large language prompt design for sustainability data science while ensuring professional standards and stakeholder value.

## Module 16: Systems Architecture for Sustainability

|  |  |
| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Design IT systems aligned with circular economy and low-impact principles

### Learning Outcomes:

**Knowledge:** Pioneer new approaches to specialized knowledge of systems architecture for sustainability for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Lead transformational technical implementation of systems architecture for sustainability to support executive and system-level leadership in organizational contexts.

**Competence:** Drive systemic change in professional responsibilities involving systems architecture for sustainability while ensuring professional standards and stakeholder value.

## Module 17: Circular Economy for Digital Systems

|  |  |
| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Comprehensive circular economy principles and lifecycle thinking for sustainable digital system design and management

### Learning Outcomes:

**Knowledge:** Establish methodological specialized knowledge of circular economy for digital systems for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Create breakthrough professional application of circular economy for digital systems to support executive and system-level leadership in organizational contexts.

**Competence:** Lead strategic transformations of professional responsibilities involving circular economy for digital systems while ensuring professional standards and stakeholder value.

## Module 18: Big Data for Environmental Intelligence

|  |  |
| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Leverage big data technologies to analyze environmental patterns and trends

### Learning Outcomes:

**Knowledge:** Create original specialized knowledge of big data for environmental intelligence for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Establish new practices in data-driven approaches to big data for environmental intelligence to support executive and system-level leadership in organizational contexts.

**Competence:** Shape industry practices through professional responsibilities involving big data for environmental intelligence while ensuring professional standards and stakeholder value.

## Module 19: Advanced Visualisation for Sustainability Reporting

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| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Create effective data visualizations to communicate sustainability performance

### Learning Outcomes:

**Knowledge:** Synthesize multi-disciplinary specialized knowledge of advanced visualisation for sustainability reporting for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Innovate solutions for data-driven approaches to advanced visualisation for sustainability reporting to support executive and system-level leadership in organizational contexts.

**Competence:** Influence sector-wide professional responsibilities involving advanced visualisation for sustainability reporting while ensuring professional standards and stakeholder value.

## Module 20: Low-Carbon Cloud Infrastructure

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| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Design and implement energy-efficient cloud computing solutions

### Learning Outcomes:

**Knowledge:** Conceptualize advanced specialized knowledge of low-carbon cloud infrastructure for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Research and develop technical implementation of low-carbon cloud infrastructure to support executive and system-level leadership in organizational contexts.

**Competence:** Drive systemic change in professional responsibilities involving low-carbon cloud infrastructure while ensuring professional standards and stakeholder value.

## Module 21: Data Analytics for Sustainability

|  |  |
| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 6 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Use data tools to derive actionable sustainability insights

### Learning Outcomes:

**Knowledge:** Pioneer new approaches to specialized knowledge of data analytics for sustainability for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Lead transformational data-driven approaches to data analytics for sustainability to support executive and system-level leadership in organizational contexts.

**Competence:** Lead strategic transformations of professional responsibilities involving data analytics for sustainability while ensuring professional standards and stakeholder value.

## Module 22: Machine Learning and Predictive Modeling

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| --- | --- |
| ECTS Credits | 5 |
| EQF Level | 7 (Program: 7) |
| Total Workload | 125 hours |
| Contact Hours | 31 hours |
| Self-Study Hours | 43 hours |
| Workplace Hours | 50 hours |

**Description:** Develop predictive models to assess sustainability scenarios

### Learning Outcomes:

**Knowledge:** Establish methodological specialized knowledge of machine learning and predictive modeling for organizational transformation and strategic sustainability leadership within sustainability applications.

**Skills:** Create breakthrough data-driven approaches to machine learning and predictive modeling to support executive and system-level leadership in organizational contexts.

**Competence:** Shape industry practices through professional responsibilities involving machine learning and predictive modeling while ensuring professional standards and stakeholder value.

# Recognition Framework

|  |  |
| --- | --- |
| EQF Level | 7 |
| ECTS Transferable | Yes |
| Bologna Compliant | Yes |
| Professional Recognition | Industry recognition for Digital Sustainability Leader competencies at EQF Level 7 |