Hanze

## Opleiding

**Toegekend diploma**
Master of Science

**Programmaduur**
16 maanden

**ECTS credits**
90

**Niveau eindkwalificatie**
Master

**Vorm**
Voltijd

**Taal**
Engels

**School**
Instituut voor Engineering

**Locaties**
Groningen

# European Master in Sustainable Energy System Management

**Programmabeschrijving**

European Master in Sustainable Energy System Management compromises 90 ECTS. The content and structure of the EUREC Master is predetermined by the EUREC university consortium and comprises:

1. a core semester of 30 ECTS;
2. a specialisation semester at Hanze UAS or a partner university of 30 ECTS; and
3. a thesis project of 30 ECTS

The program offers the following specialisations:

Sustainable Energy and the Digital Transformation (University of Kortrijk)
System Integration and Optimisation (Hanze UAS, the Netherlands)
Sustainable Energy Management (University of Zaragoza, Spain)

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**Leeruitkomsten**

The student has the ability to:

- plan, develop and manage multi-disciplinary/-level/-dimensional energy transition projects within time, budgetary, quality and personel constraints
- work in multidisciplinary (inter)national teams effectively and efficiently
- demonstrate abstract, analytical thinking and creativity in synthesis of ideas across disciplines
- conduct applied scientific research independently in sustainable energy systems
- communicate professionaly in English (oral and written) using modern (social media based) communication tools
- be entrepreneurial
- **analyse, design, assess and implement**
  (a) the interactions of technical, energetical, economical, business and legal/licensing aspects of the various components of the overall energy system and value chains at various aggregation levels
  (b) the role of energy policy, policy decision making and stakeholders (e.g public acceptance issues)
  (c) energy project business plans and tools/techniques (e.g scenario planning, business cases, risk analysis, rate of investment return)
  (d) energy system features, boundary conditions (grid balancing: demand versus supply), energy market behaviour and (renewable) production technologies.
- **analyse, design, create, assess and implement**
  (a) constraint and context based business plans using appropriate tools/models
  (b) scenario plans for multi-criteria decision making using risk/return/uncertainty profiles,
  (c) models for efficiency and effectivity analysis
  (d) optimisations and market strategies
- **develop, analyse and implement:**
  (a) business cases & plans for system transition projects ,
  (b) project resource constraints (budget, information, organisation, time, quality)
  (c) monitoring tools for project assessment.

## Programma

| **European Master in Sustainable Energy System Management** | **credits** |
|---|---|
| Core | 30 |
| SUVM23ETCPP - Energy Transition: context, policy, good practices | *5* |
| SUVM23TPI - Technologies, Plants and Integration | *5* |
| SUVM23MFL - Energy Policy, Markets, Finance and Law | *5* |
| SUVM23MBEEFS - Modelling Business Ecosystems of Energy Flexibility Services | *10* |
| SUVM23RMS - Research Methodology & Skills | *5* |
| Specialisation | 30 |
| *één van de onderstaande onderdelen* | |
| SIM Hanze UAS | *30* |
| SUVM23ESMA - Energy Systems Modelling & Applications | *5* |
| SUVM24SCBA - Social Cost-Benefit Analysis of Sustainable Energy Systems | *10* |
| SUVM23SIP - System Innovation Processes | *5* |
| SUVM23BED - Business Ecosystem Design | *10* |
| Sustainable Energy and Digital Transformation | *30* |

- SUVM23SEDT - Specialisation Sustainable Energy and the Digital Transformation (Kortrijk) *30*

Thesis 30

- SUVM23THP - Thesis Research Project *30*

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