Curriculum for Master of Science in Environmental Engineering

**Common core studies, 15 cr**
- Introduction to Graduate Studies and Career Planning
  
  *To help you in planning your curriculum based on your background and career goals*

- Finnish language or communication studies
  
  *Take the initial step towards learning Finnish or rehearse your communication skills if you are already fluent in Finnish*

- Thesis Writing in English and Thesis Seminar in Environmental Engineering
  
  *To guide you during your Master’s thesis process*

- Professional Training in Environmental Engineering
  
  *You gain professional experience while learning in the working life in the environmental sector. Your training placement may be e.g. in consulting, industry, municipality or a research institute.*

**Major studies, 95-105 cr**

**Compulsory courses, 50 cr**
- Living Lab: Circular City

  *Learn ways to tackle sustainability issues in an urban context considering environmental, social and economical viewpoints.*

- Introduction to Environmental Governance

  *Learn about factors impacting decision making and rehearse your negotiation skills*

- Process engineering

  *Learn the principles of designing industrial processes*

- LCA in Energy and Environmental Engineering

  *Learn tools to evaluate sustainability of products and processes in a structured way*

- Master’s Thesis
Complementary courses, 45-55 cr, suggestions to choose from

- Design of Water Treatment Processes
- Water Supply and Sewerage Systems
- Biogas Technology for Material Flow Management and Energy Production
- Remediation of Contaminated Environment
- Laboratory Course in Bio and Environmental Engineering
- Plant Design in Water and Waste Engineering
- Hydraulic Network Modeling
- Resource Recovery
- Water Supply and Sewerage Systems
- Conversion Processes and Feasibility of Biorefineries
- Sizing of Biorefineries

- Introduction to Control
- Systems and Control
- Systems Engineering in Automation
- Introduction to Signal Processing
- Introduction to Pattern Recognition and Machine Learning
- Numerical Process Modeling
- Project Management
- Data and Information Management

- Molecular Biology and Synthetic Biology
- Biocatalysis and Enzymology
- Laboratory Course in Computational Biology
- Industrial Organic Chemistry
- Biological Data Analysis
- Trends in Bioengineering

- Economic Renewal of Cities and Regions
- New Environmental Governance
- Introduction to Public Administration Research, Reforms and Trends
- Leadership for Sustainable Change
- Business Ethics
- Turning Circular Economy Technologies into Business
- Business, Society and Nature