

MSc Thesis Guidelines

MCB, 2026/2027

MSc Thesis Guidelines: Dissertation or Project?

- Final MSc work in Energy and Environmental Engineering
- Two formats: **Dissertation** or **Project**
- Different objectives, methodologies, and evaluation criteria
- Goal: demonstrate scientific/technical competence and critical thinking

Dissertation vs. Project: The Key Difference

Dissertation

- Research-oriented
- Answers a scientific question
- Generates new knowledge

Ask yourself:

"What do we want to know?"

→ Dissertation

"What solution do we want to build?"

→ Project

Project

- Engineering-oriented
- Solves a practical problem
- Develops, implements, or evaluates a solution

What Does a Dissertation Look Like?

- Starts from a research question or hypothesis
- Includes a critical literature review
- Uses a scientific methodology
- Produces and discusses original results
- Focus on evidence, interpretation, and scientific contribution

What Does a Project Look Like?

- Starts from a practical engineering problem
- Reviews existing solutions
- Designs, develops, or implements a solution
- Validates technical, economic, or environmental performance
- Focus on engineering design and application

Recommended Structure

Dissertation

- Introduction
- Literature Review
- Research Questions & Objectives
- Methodology
- Results
- Discussion
- Conclusions

Project

- Problem Definition
- Existing Solutions
- Design & Implementation
- Validation
- Evaluation
- Conclusions

Reproducibility Matters

- Others should be able to understand and reproduce your work
- Document methods, assumptions, and workflows
- Share code, models, datasets, and configuration files when possible
- Use repositories (e.g., GitHub) and provide clear instructions
- Reproducibility is part of quality and evaluation

Using AI Responsibly

- AI tools can support writing, coding, literature exploration, and data analysis
- AI does not replace understanding or critical thinking
- Always verify AI-generated information
- You remain responsible for all content in the thesis
- AI use must be transparent and declared

AI and Your Defence

- The defence validates authorship and understanding
- Be able to explain every figure, result, method, and line of code
- Be prepared to justify decisions and assumptions
- If you cannot explain it, do not include it
- AI can assist; it cannot defend your thesis

What Leads to a Strong MSc Thesis?

- Clear question or well-defined problem
- Appropriate methodology
- Critical analysis of results
- Reproducible and well-documented work
- Honest use of AI and academic integrity
- Demonstrated understanding during the defence