# MSc in CSTE

# Computational Methods & C++ Assignment

**Code**

1. Repository on GitHub. **(DONE)**
2. Classes: Scheme, Explicit, Implicit and Matrix, Vector from C++ course. **(DONE)**
3. Implement methods in Scheme class like: boundary, initial **(DONE)**
4. Implement methods in Explicit class **- Klaudia**
   1. Schemes **(DONE)**
   2. Print **(DONE**
   3. Save into file **(DONE)**
5. Implement methods in Implicit class **- Etienne**
   1. Schemes and Thomas algorithm **(DONE)**
   2. Print **(DONE) - Klaudia**
   3. save into file **(DONE) - Klaudia**
6. Implement/refactor method in Matrix class: Norm() **(DONE)**
7. Implement method in Scheme class: AnaliticalSolution() **(DONE)**
8. Short menu in console or **command with arguments (more professional)** **(DONE)**
9. Clean and refactor code at the end of the work (requirements from assignment pdf)   
   **(IN PROGRESS) - Klaudia**
   1. Check SOLID principles **(DONE)**
   2. Check, if Standard Library is used or can be used **(DONE)**
   3. Add exceptions. **(IN PROGRESS)**
   4. Check other requirements from assignment pdf **(DONE)**
   5. Check user’s input **(DONE)**

**Documentation in LaTeX (Overleaf) IN PROGRESS)**

1. Computational Methods – **Etienne (IN PROGRESS)**
   1. Charts **(DONE) in Excel files**
   2. Equitation **(IN PROGRESS)**
   3. Conclusions, descriptions… **(IN PROGRESS)**
2. C++ **-Klaudia (IN PROGRESS)**
   1. Dioxygen with UML class diagram **(DONE)**
   2. Appendix with code **(IN PROGRESS)**
   3. Additional comments in code **(DONE)**
   4. Answer the questions from assignment pdf **(DONE)**
3. Individual Contributions