Assignment 2 Rubric
Assessment: Total 80 marks

The grading is based on a 5-point rubric:

[5 points] Excellent (100%)
[4 points] Very Good (80%)
[3 points] Satisfactory (60%)
[2 points] Inadequate (40%)
[1 points] Poor (20%)
[0 points] Missing (0%)

Note the requirement to identify Qt/C++ components to be used in your design is removed.

(15 marks) Part1: Use case(s) and use case diagram:

Completeness (10 marks) will assessed as per the following 5-point rubric
- [10 marks] Excellent (100%): All the steps of simulation setup and execution
- [8 marks] Very Good (80%): All the major steps covered, but missing a few the sub-steps
- [6 marks] Satisfactory (60%): All the major steps covered but missing ½ of the sub-steps,
- [4 marks] Inadequate (40%): Missing 1 or more major steps and missing most sub-steps
- [2 marks] Poor (20%): Missing 2 or more major steps and missing most sub-steps
- [0 marks] Missing (0%): no use cases or just names and no sub-steps

Use case form: (3 marks)
- Name:
- Primary Actor(s):
- Stakeholders:
- Pre-condition(s):
- Success guarantee(s) (equivalently Post-conditions)
- Main success scenario:
  - should be complete end to end behavior (not fragments)
- Extensions:

Use case diagram: (2 marks) show actors, all use cases and their relationship

(50 marks) Part 2: Design documentation and traceability matrix

- (10 marks) UML Class diagrams (structure):
  - Complete relative to the requirements and use case model
    - Are all elements from the requirements covered?
      - Simulation setup, execution control, elevators, floors, sensors, buttons, …
  - Well formed:
    - Is UML syntax followed?
  - Consistent with the implementation at the class, relationship and interface level
    - Are all the classes from the header files shown?
    - Are all their public interfaces shown?

- (20 marks) UML sequence diagrams for the following scenarios (object interaction):
  - 2 different concrete end-to-end success scenarios for the case of 3 passengers, 2 elevators, and 5 floors
  - 2 concrete safety scenarios. Choose any two from the five provided.
- (10 marks) UML state machine diagrams for elevator and any controller(s). (object behavior)
- (10 marks) Requirements traceability matrix
  - Requirements to use cases
  - Use cases and/or requirements to design elements. Note that some requirements, for example N floors/M elevators, are satisfied in the design so there is no mapping to a use case.

(5 marks) Part 3: C++ header files

Consistency with class diagram
  - Class definition:
    - member function signatures (name, parameters, return values)
    - significant member variables
  - NO function implementation, i.e. no .cpp files

(5 marks) Part 4: Sketch of GUI

Covers all the features required for simulation setup, execution control, and observation.

(5 marks) Part 5: Design explanation

Well documented design through textual explanation as part of class diagrams, sequence diagrams, state machine diagrams, or comments in the header files.