

# *QC101 $\mu$ Introduction to Quantum Computing with IBM Q Experience*

## Mission 1: Quantum circuit simulation

This assessment evaluates the following competencies:

- *QC101 – Understand the notions of qubit, qubit state and qubit system*
- *QC102 – Understand the superposition and entanglement operations*
- *QC201 – Understand the notions quantum logic gate and perform simple operations on quantum circuits (X, H, CNOT)*
- *QC401 – Program a quantum circuit with IBM Q Experience and simulate it*

In this mission, you have to encode a quantum circuit on the IBM Q Experience platform, simulate it and analyse the obtained results. To succeed the mission, you have to:

1. Create a quantum circuit with a three-qubit register as input and using the three quantum gates X, H and CNOT
2. Encode the circuit on the IBM Q Experience platform and simulate it
3. Send a screenshot of the circuit and a screenshot of the results of the simulation to the teacher