# CSE332L Computer Organization & Architecture Lab
# Lab Course Outline
# North South University

---

## Course Description

**This course introduces students to the basic concepts of computers, their design and how they work. We will employ both hardware and software tools to realize a small processor of our own.**

## List of Experiments

| | |
|---|---|
| **Lab 1** | **Design of a 2-bit Logic unit** |
| **Lab 2** | **Design of a 2-bit Arithmetic unit** |
| **Lab 3** | **Design of a 4-bit Binary Multiplication Unit** |
| **Lab 4** | **Design of a 4-bit Binary Up-Down Counter** |
| **Lab 5** | **Design a Register File** |
| **Lab 6** | **Design of an ALU** |
| **Lab 7** | **Design a single cycle Datapath** |
| **Lab 8** | **Design a Pipelined Datapath** |

## Lab Marks Distribution

**Total = 100**

1. **Attendance – 20%**
2. **Lab Performance (evaluated on each class) – 20%**
3. **Lab Report – 20%**
4. **Midterm – 20%**
5. **Final – 20%**

## Notes

- **1st four of the experiments will be done in the hardware lab, the remaining ones in the software lab.**
- **Completing the lab tasks is a group work, but evaluation will be done individually.**
- **The circuit done in the hardware lab must be done in the Logisim too (after class time). Then the image of it has to be attached at the end of the lab report.**
- **Lab reports must be submitted at the beginning of the lab class. Failure to do so will result in a penalty.**
- **There will be one lab report for every group. But each member of the group has to do at least a report.**
- **Plagiarism in any case will not be tolerated.**