

# Assignment 1: Designing a System with OOP

**Deadline: 23:59 pm, March 31, 2025**

Now, you are designing a system with the Object Oriented Programming (OOP) paradigm. The system can be used in any concrete scenario, like Course Management System, Student Management System, Library Management System, etc.

For example, for designing a Course Management System, you should decide the entities (i.e., classes) and functionalities (i.e., methods) in such a system. Possible functionalities include *course registration*, *course search*, *grade analysis*, etc. You should design at least 6 classes (like *student*, *teacher*, *admin*, *lecture course*, etc.) and leverage the features of OOP.

You are free to select other “XXX” Systems and design at least 6 reasonable classes. And you don’t have to write the code to implement the management system.

To complete this task, you should provide a document (fewer than 4 pages) describing your system design and related functions. More importantly, you **MUST** insert a UML class diagram to show the relationships among the classes in your system. You can use the Violet UML Editor, diagrams.net, or other UML tools.

**What you need to submit:** Submit a document file in PDF and name it with your ID and name, e.g., “123456-Harry-asg1.pdf”.

**Submission guideline:** You should submit the files via email to our TA **Mr. Hao Zeng** ( [hao\\_zeng@mail.nwpu.edu.cn](mailto:hao_zeng@mail.nwpu.edu.cn) ) before the deadline.

PS: You can find a suggested template for your report as follows.

**System title: XXX System**

**Author:**

**Student ID:**

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1. System Overview
2. Entities (describe their attributes and functionalities)
3. Class Design (clarify the relationship between entities)
4. UML Class Diagram (insert your UML class diagram)
5. Conclusion