

CT 5707701 物件導向程式分析與設計
Analysis and Design for Object-Oriented Programming

Time and Place:

Monday 13:20-16:20 (M6, M7, M8) in E2-412

Instructor:

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Course Description:

The modern object-oriented programming languages not only provide comparable performance to traditional procedural languages, but also provide the maintainability and extensibility for large software projects development through features such as data abstraction, encapsulation, modularity and code reuse. This course presents object-oriented programming and the philosophy of object-oriented design. The goal is to provide students background toward collaborative team researches in various engineering software applications development.

Topics:

1. **C++/Java Programming:** programming with objects and classes, functions and methods, operator overloading in C++, memory management, exception handling, abstract classes, inheritance, class hierarchies and issues in object-oriented design.
2. **Data Structures:** C++ templates, data structures (lists, tables, trees etc.), iterators, algorithms (searching, sorting), C++ Standard Template Library (STL).
3. **Java Packages:** **Java applets, Java AWT** for GUI design, Multithreading in Java, Network Programming in Java.

Textbook:

No required textbook. Class notes, programming examples, selected articles and handouts will be provided.

References:

1. C++ HOW TO PROGRAM, 8th Edition, Deitel/Deitel, Prentice Hall.
2. JAVA HOW TO PROGRAM, 11th Edition, Deitel/Deitel, Prentice Hall.

Course Requirements:

1. **Programming Assignments (30%):** There will be several programming assignments. Assignments are due at the beginning of class. No late assignments will be accepted. You need to submit your programming code printed out on papers, and on computer file.
2. **Mid-Term and Final Exam (70%):** There will be a mid-term exam, and a final exam. The two exams are equally weighted (35% each).