

# Course introduction

Introduction to Object oriented  
programming





# Lecturer information



- Trần Duy Quang
- [tdquang@fit.hcmus.edu.vn](mailto:tdquang@fit.hcmus.edu.vn)
  
- Subject: **OOP - Question summary**
  - OOP - How to read text file
- Anonymous form
- Working year since: 2009
- Main courses:
  - OOP
  - Windows programming



# Course's objectives

After finishing the course, the students can

- ❑ Explain basic terms which are related to object oriented programming
- ❑ Apply OOP methods in solving simple problems
- ❑ Create UML class diagram for visualizing OOP system

# Main content – 4 pillars of OOP

- ❑ **Abstraction**: blackbox, **what** not how
- ❑ **Encapsulation**: data hiding
- ❑ **Inheritance**: reuse & upgrade
- ❑ **Polymorphism**: use **parent class** to refer **child class**



# Weapon of choice

[onlinegdb.com](http://onlinegdb.com)

C++ version: **C++23**



# Schedule

1. Course Introduction: content, evaluation
2. Basic C++ programming tips: overload, pointer, function pointer, function call stack, pass by value / reference, random, string, vector, date, function template, working with text file
3. OOP: Class & Object, Constructor, Destructor, Attributes, Getter, Setter, Parametered constructor, copy constructor, assignment operator
4. Aggregation & composition
5. Inheritance, abstract class, interface
6. Polymorphism



# Grading

- ❑ Practice: **4 (tùy giáo viên TH)**
  - Weekly exercises: 25%
  - Midterm: 35% (Week 06)
  - Final: 40% (Week 10)
- ❑ Theory: **6**
  - Weekly excercises: 25% (Inclass & Homework)
  - Midterm project: 15% (Week 06)
  - Final written exam: 60% (90 mins – A4 hand)
- ❑ Secret bonus: **0.5 + hidden items**



# Materials for learning

## ❑ **Lập trình hướng đối tượng**

- Trần Đan Thư, Đinh Bá Tiến, Nguyễn Tấn Trần Minh Khang, NXB Khoa học kĩ thuật, 2010



# Other further reading

- ❑ **Thinking in C++**, Bruce Eckel, Prentice Hall, 1998
- ❑ **C++ Primer Plus**, 6<sup>th</sup> Edition, Stephen Prata, 2014
- ❑ **Beginning C++17**, 5<sup>th</sup> Edition, Apress, 2018

# Things to consider

- ❑ C++ OOP Roadmap
- ❑ C++ jobs
  - [vietnamworks.com](https://vietnamworks.com) / [itviec](https://itviec.com) / [topdev](https://topdev.com)
  - ([freelancer.com](https://freelancer.com) / [upwork.com](https://upwork.com) / [vlance.vn](https://vlance.vn))
- ❑ C++ awesome
- ❑ C++98 / C++11 / C++14 / C++17 / C++20 / C++23

# Modern C++ techniques

<https://www.modernescpp.com/index.php/table-of-content/>

# Widening your knowledge

[infoq.com](https://infoq.com)

[medium.com](https://medium.com)

[dev.to](https://dev.to)

# Question?

