

Copyright Warning

COMMONWEALTH OF AUSTRALIA

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Object Oriented Design

Week 1

Administrivia

Teaching Staff

- Lecturer: Assoc. Prof. Masahiro Takatsuka
- Room: J12, 3W-318 or ViSLAB (212)
- Contact: masa.takatsuka@sydney.edu.au
- Consultation: Thu 3-4pm

- Tutors: Dr John Stavrakakis
Mr George Karpenkov

Contact

- Your first point of contact:
 - ***your own*** lecture notes
- Next....your tutor (John or George)
- Last....prof. Takatsuka

Contacting me

- **Come to my consultation hour**
 - **Thu, 3-4pm.**
 - **Come to SIT building and call me (15903)**
 - **will be in ViSLAB (212)**

Lectures

- **Lecture: Thu 11am - 1 pm**
- **Textbook: Lecture Slides only**
- **Course materials: will be made available on Blackboard**

Assessment

- Four assignments: (5%, 5%, 10%, 10%; 30% total)
 - Primarily Individual assignments
 - but grouped (at least four members)
- Lab work, including two quizzes (20%)
- One final exam (50%)
- You must get
 - $\geq 40\%$ in progressive assessment,
 - $\geq 40\%$ in final exam
 - $\geq 50\%$ overall

Resources

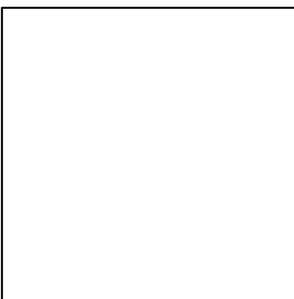
- USyd's eLearning site (Blackboard)
 - Read “Academic Honesty” under Assessment Policies
 - Download assignment coversheet
- All announcements including assignment related are made here
- Tutorials will be made available here
- Assignments will be made available here
 - You would use Blackboard to submit your assignments

OHS INDUCTION

School of Information Technologies



THE UNIVERSITY OF
SYDNEY



Emergency Procedures & Evacuation

- › Check for any sign of immediate danger
- › Shut down equipment
- › Follow exit signs in orderly fashion, to assembly areas, as indicated by wardens
- › Do not use lifts

Emergency contact numbers

- › Dial 0-000 (from internal phone) or University Security on 9351-3333.
- › First aid kit available in kitchen area adjacent to Lab 110 in SIT Building.

- › First aid officers in SIT Building are Will Calleja (1West) and Witek Janus (1East)
- › Nearest medical facility – University Health Service in Level 3, Wentworth Building

General Housekeeping

- › Keep work area clean and orderly
- › Remove trip hazards around desk area
- › No food and drink near machines
- › No smoking permitted within University buildings
- › Do not unplug or move equipment without permission

Report incidents to: Katie Yang (Undergraduate), Cecille Faraizi (Postgraduate), or Shari Lee (School Manager)

Do you have a disability?

You may not think of yourself as having a 'disability' but the definition under the **Disability Discrimination Act** is broad and includes temporary or chronic medical conditions, physical or sensory disabilities, psychological conditions and learning disabilities.

The types of disabilities we see include:

÷ anxiety ÷ arthritis ÷ asthma ÷ asperger's disorder ÷ adhd ÷
÷ bipolar disorder ÷ broken bones ÷ cancer ÷
÷ cerebral palsy ÷ chronic fatigue syndrome ÷ crohn's disease ÷
÷ cystic fibrosis ÷ depression ÷ diabetes ÷ dyslexia ÷ epilepsy ÷
÷ hearing impairment ÷ learning disability ÷ mobility impairment ÷
÷ multiple sclerosis ÷ post traumatic stress ÷ schizophrenia ÷ vision impairment ÷
and much more.

Students needing assistance must register with Disability Services –
it is advisable to do this as early as possible.

Please contact us or review our website to find out more.

References

- Programming: principles and practice using C++, Bjarne Stroustrup
- C++ Programming Language, 3rd ed., Bjarne Stroustrup
- C++ Primer, 4rd ed., Stanley B. Lippman, Josée Lajoie, Barbara E. Moo
- Effective C++, Scott Meyers
- The C++ Standard Library: A Tutorial and Reference, Nicolai Josuttis
- Exceptional C++, Herb Sutter
- Exceptional C++ Style, Herb Sutter
- The UML (2.0) Reference Manual, 2nd ed., James Rumbaugh, Ivar Jacobson, Grady Booch
- The UML (2.0) User Guide, 2nd ed., Grady Booch, James Rumbaugh, Ivar Jacobson
- <http://www.open-std.org/jtc1/sc22/wg21/>
[ISO/IEC 14882: Programming Language C++ - current draft](#)

Tutorials

- Location Madsen Lab LG32 (Rm 226)
 - Monday
 - 10am, 12noon, 2pm
 - Tuesday
 - 10am, 12noon

Tools

- Visual Studio (C++)... any of us (me, tutors) need to be able to {grab|compile|exec} your code
- Subversion ... version control your file including source code/documents
- Zip or Gzip (please do not use rar/lha)

Feedback

- to us:
 - if you have problems or are struggling,
 - if you can't understand the contents,
 - if you become ill and can't make a tutorial or quiz, or
 - if you think there's something else wrong

Feedback

- to you:
 - when you submit work, we have to mark it,
 - we try to make this feedback as fast as possible
 - progressive marks will be recorded on blackboard.

Advice

- Practice,
- Try it out (have a small testing code: `myTest.cpp`)
- Come to lectures/tutorials
- Use version control (subversion/TortoiseSVN)

Assignments

- Building a simple game



Depth Bomb (SEGA) 1978
Galaxy Wars (NAMCO) 1979

Space Invaders (TAITO) 1978

Assignments

- Four assignments
 - each one is based on the previous one
 - apply Object Oriented Design to progressively add new specifications and improve a system.

W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13
		A1	Q1	A2	Q2	A3	A4					

What you will learn

- How to design thing(s) in Object-Oriented manner
- Understand what is OO
- How to do OO using C++

Broad Overview

- C++
 - Things you should know for doing OO
 - struct/class
 - Encapsulation / Inheritance / Polymorphism
 - Managing (creating/deleting) Objects
 - Template

Broad Overview

- Object Oriented XXX
 - OO Concept
 - Application
 - UML, Modelling, Dev Process
- Programming Technologies
 - OOP, Framework, Design Pattern, Generalisation