

# OIJ-1156 Programming II, 5 cr

## Introduction

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# Who Is Who

## ■ Lecturer:

- Imed Hammouda
- Email: [imed.hammouda@tut.fi](mailto:imed.hammouda@tut.fi)
- Room: TE108
- Office hours: Tuesdays 14:00-16:00

## ■ Teaching Assistant:

- Veerendra Kumar
  - Email: [veerendra.deverashetty@tut.fi](mailto:veerendra.deverashetty@tut.fi)
  - Room: TE216
  - Office hours: Tuesdays 10:00-12:00



# What Is Expected

- OHJ-1106 Programming I, or
- Sufficient knowledge on the topics covered in OHJ-1106
- Familiarity with the programming environment at TUT



# Course Requirements

- Mandatory **homework assignments** (30%)
- **Written exam** (70%):
  - 19.05.2012
  - ?
  - ?
- **Active participation** in the lectures and exercises adds 5 points to your overall course score



# Lectures

- **3rd period:**
  - Mondays 14:00-16:00 in TB207
  - Wednesdays 12:00-14:00 in TB222
  
- **4th period:**
  - Mondays 14:00-16:00 in TB207
  
- 24 two-hour lectures
- 1st session: TODAY
  
- **Active attendance:**
  - Attendance in the lectures (at least 70% of the sessions)
  - Contributing to the lectures themselves: questions, comments, answers, further readings, etc.
  
- **Help** on lectures
  - Meeting with the lecturer during office hours, or other times when available



# Exercises

- **3rd and 4th periods:**
  - Fridays at 10:00-12:00 or 12:00-14:00 in TC217
  
- 13 two-hour exercises
- 1st session: 20.01.2012
- The exercises are **not compulsory**
  
- **Active attendance:**
  - Attendance in the exercises (at least 70% of the sessions)
  - Solving the exercise questions in advance. A printed copy needs to be delivered to the TA in the beginning of the session.
  
- **Help** on exercises
  - Meeting with the TA during exercise sessions and office hours, or other times when available



# Homework Assignments

- 2 programming assignments implemented in C++
- Each homework assignment is graded with 0-15 points
- Help on homework assignments
  - Meeting with the TA during office hours, or other times when available



# Grading the Assignments

- The programs **must compile** without warnings with tutg++
- The program works according to the **specification**
- No **goto, printf**, etc. No **global** variables
- Programs are **commented** properly. Each file starts with a comment stating the name and student number of the programmer and briefly describes the contents of the file
- The **names** of the functions and variables **make sense** and the program is readable
- **90% style** is required
- The program is **well structured**
- Classes are **well defined**
- Students with failed assignments **may be** called for resubmission.



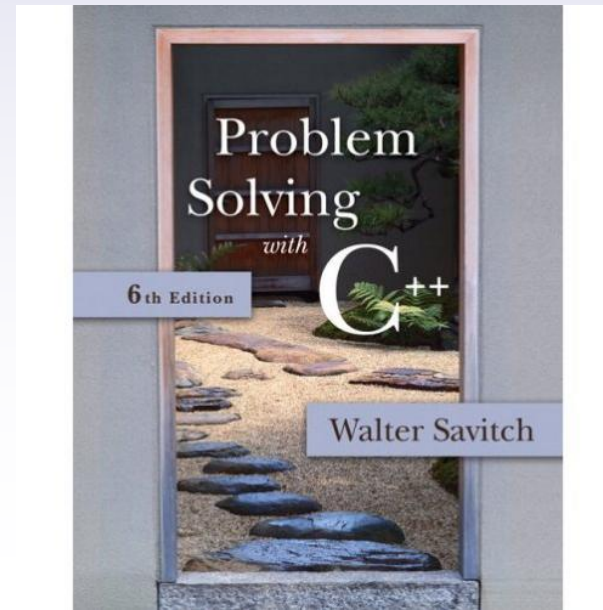
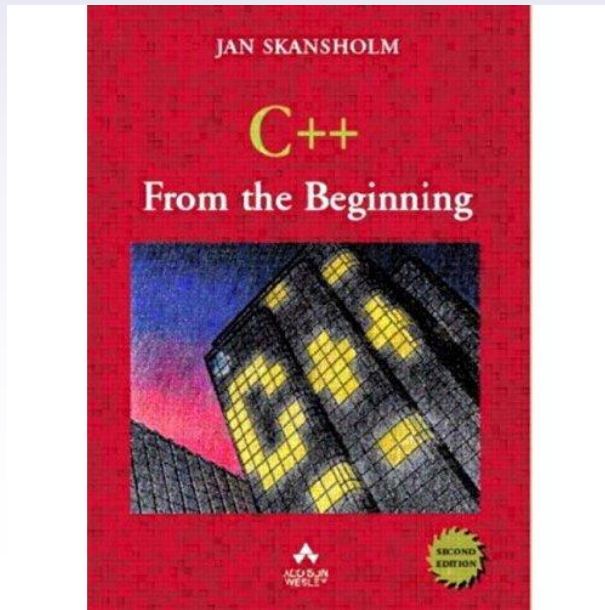
# Academic Dishonesty and other Unpleasantness

- The students are **encouraged to discuss** the material together and exchange ideas.
- All the students are expected to do their **own work** and write their **own programs**.
- The programs are automatically **checked for copies**.
- In case of copying a program from someone:
  - The assignment will be discarded and the **course cannot naturally be finished**.
  - **Both parties**, the student, who copied the program and the student, who allowed his or her program to be copied will be equally punished.



# Course Material

- **Lecture notes** (provided online before the lecture)
- **Exercise sheets** (provided online on Fridays)
  
- **Skansholm**: C++ from the Beginning
- **Savitch**: Problem Solving with C++



# Syllabus

Week	Monday Lecture	Wednesday Lecture	Friday Exercises	Work Due	Reading
1: 09.01-15.01	- Get to Know - Introduction	Classes and Data Abstraction	No exercise session	-	-
2: 16.01-22.01	Classes and Data Abstraction (cont'd)	Classes and Data Abstraction (cont'd)	Tutoring session	-	Skansholm: 7 Savitch: 10, 11.3
3: 23.01-29.01	Modularity	Pointers and Dynamic Data	Questions Solution	Homework 1 (published)	Skansholm: 5.4 Savitch: 9
4: 30.01-05.02	Pointers and Dynamic Data (cont'd)	Templates	Questions Solution	-	Skansholm: 14 Savitch: 17
5: 06.02-12.02	Revision: Pointers + Templates	STL	Questions Solution	-	Skansholm: 12 Savitch: 18
6: 13.02-19.02	STL (cont'd)	STL (cont'd)	Questions Solution	-	Skansholm: 12 Savitch: 18
7: 20.02-26.02	Linked Structures	Linked Structures (cont'd)	Questions Solution	-	Skansholm: 13 Savitch: 13
8: 27.02-04.03	Linked Structures (cont'd)	Recursion	Questions Solution	Homework 1 (deadline)	Skansholm: 4.8 Savitch: 14
9: 05.03-11.03	Examination week				
10: 12.03-18.03	Recursion(cont'd)	-	Questions Solution	Homework 2 (published)	Skansholm: 4.8 Savitch: 14
11: 19.03-25.03	Binary Trees	-	Questions Solution	-	Skansholm: 13.4 Savitch: 13.1
12: 26.03-01.04	Stacks	-	Questions Solution	-	Skansholm: 12.6 Savitch: 13.2
13: 02.04-08.04	Queues	-	Questions Solution	-	Skansholm: 12.6 Savitch: 13.2
14: 09.04-15.04	No lecture	-	Automatic Compilation (Makefiles)	-	Skansholm: Savitch:
15: 16.04-22.04	Parameters of the Main Function	-	Version Control (RCS)	-	Skansholm: Savitch:
16: 23.04-29.04	Exception Handling	-	-	-	Skansholm: 10 Savitch: 16
17: 30.04-06.05	Namespaces	-	-	-	Skansholm: 15.1 Savitch: 12.2
18: 07.05-13.05	Testing & Debugging	-	-	Homework 2 (deadline)	Skansholm: 1.4 Savitch: 5.4



## Other Practical Information

- Assessment scale: **numeric (1-5)**
- Partial passing of course must be in connection with the **same round of implementation.**
- Course webpage:  
<http://www.cs.tut.fi/~prog2/>



# Revision on the Topics of Programming I

- How a computer works
- Algorithms
- Data types, variables and operations
- Program structure and functions
- Parameter passing, scope and lifetime
- Branching
- Iteration
- Arrays and character strings
- Structs
- Unions
- Streams
- File I/O
- Sorting
- Searching
- Programming style

