Study Plan for Module #1

Introduction to Object-oriented Programming 7.5 HEC

Contents

There is quite a lot to read in this document, but if you consider how much is being *said* during a campus course held at the university it is relatively little.

Introduction

Exercises without solutions

Why are there no solutions given!?
As always with a ready-made templates / solutions, there is a chance that this is interpreted as the only way to solve the problem. Avoid seeing things as "Black or White", "True and false." In terms of language syntax this is true, but not the logic of your program, i.e, the semantics – There are often several solutions to one and the same problem!

We encourage you to think freely and look for solutions yourself through books (the course literature in first hand), the Internet, the forum (*Discussion contributions* on the course home page in Fronter) and of course you can contact us the lecturers. In order to get an easier start in searching the Internet a collection of links are provided (see course website).

Discussion is a great source of learning new things!! Take advantage of the forum (*Discussion contributions* on the course home page in Learn) and discuss what your problem, and help other students with their problems. Describing a problem so that someone else understands it calls for reflection. Likewise to explain a probable solution to a problem for someone else will enforce learning.
- Sure, it takes longer to find the answers yourself than looking at the solutions appendix "in the back of the book", but we assure that your learning will be significantly better and you will remember what you have learned a longer time.

Your Questions and How to contact the lecturer

Although this is a distance learning course, you can / should naturally ask questions if you do not understand some parts. Please do it this order:

1. State your question in the forum found on the course home page in Learn. This way other students can see your question (and yes they probably have the same questions as you!) and those students who have an answer will state a likely solution.
2. If no answers is obtained through the forum, then you are welcome to send an email to us, see contact details under "Members" category “Staff” in Learn. In some cases we can call you. (Please enter this request in your email)

We look forward to this interaction! ☺

Module #1

Review the goals and the content for this module in the course syllabus

More precisely you are expected to **apply knowledge** and **skills** in order to:

Chapter "Introduction to Computers"

- ☐ Explain how the CPU works and how its organized.
- ☐ Define and explain the common elements of a programming language.
- ☐ Define and explain the terms: statement and variable.
- ☐ Explain the 8 steps of the programming process.
- ☐ Define and explain terms in OOP like: object, attribute, method encapsulation, data

Chapter "Java fundamentals"

- ☐ Declare and initialize and use variables of different data types.
- ☐ Declare and initialize and use constants of different data types.
- ☐ Use different kind of arithmetic operators.
- ☐ Use comments in your program.
- ☐ Use different *methods* from classes like Math, JOptionPane, String and Scanner
- ☐ Be able to pass arguments to methods.
- ☐ Be able to use returned values from a methods.
- ☐ Converting strings to numbers by using wrapper classes.

Chapter "Decision structures"

- ☐ Define and explain the different parts of the if-else statement.

Examination

Examination of this module made through an **individual programming hand-in assignment eg programming exercises and random multiple choice questions** containing all the parts referred to in this module. In addition a reflection of this module **must** be submitted. This is a part of the examination and is a requirement to receive course credits.

Question to be answered in reflection report.

1. What have you learned?
2. What problems did you encounter and how did you solve them?

When is the examination of this module?

Answer: See Learn

Where do you find your examination?

Answer: On the course home page under the link "Course Module_1" and Exam Module _1 Hand in" and "Exam Module 1 Multiple choice questions"

Literature References

In the course book: *Starting Out with Java - From Control Structures through Objects*:

- Chapter: *Introduction to Computers and Java*
- Chapter: *Java Fundamentals*
- Chapter*: Decision Structures*

Presentations / Lectures

Presentation: Variables
Presentation: Math Operators and More on Operators
Presentation: if-else stetment
Presentation: The “While”-loop

Exercises from the Course Book

In the course book

Complete all **Checkpoints** in each chapter. To some extent the Checkpoints ensure that you understood the main points in a subchapter.

Review Questions and Exercises in chapter "Introduction to Computers and Java"

True/False and Multiple Choice
Answer all questions

Find the Error
Answer all questions

Algorithm Workbench
Complete all exercises

Short Answer
Answer all questions

Programming Challenges
Complete all programming exercises

Review Questions and Exercises in chapter "Java Fundamentals"

True/False and Multiple Choice
Answer all questions

Find the Error
Answer all questions

Algorithm Workbench
Complete all exercises

Short Answer
Answer all questions

Programming Challenges
Complete all programming exercises

Review Questions and Exercises in chapter "Decision Structures"

True/False and Multiple Choice
Answer all questions

Find the Error
Answer all questions

Algorithm Workbench
Complete all exercises

Short Answer
Answer all questions

Programming Challenges
Complete all programming exercises

Additional Exercises

1. None

Appendix –