Computer Programming 143 – Lecture 1
Introduction to module

Electrical and Electronic Engineering Department
University of Stellenbosch

Prof Johan du Preez
Mr Callen Fisher
Dr Willem Jordaan
Dr Hannes Pretorius
Mr Willem Smit

Lecturers and other help

Video lectures

Prof Johan du Preez
Dr Hannes Pretorius
Mr Willem Smit

Video lecture Q/A forum

Prof Johan du Preez
Dr Hannes Pretorius
Mr Willem Smit

Practicals

Mr Callen Fisher
Dr Willem Jordaan

Convenor

Prof Johan du Preez

Contact

- Video lecture Q/A forum as per next slide
- Practical questions answered interactively in practical time slots
- All other requests and queries: rp143@sun.ac.za

Video Lectures and Practicals

Video Lectures

- All video lectures available on SUNLearn per week
- View on your own time per week - compulsory!

Video lecture Q/A forum

- Monday 08h00
- Monday 10h00
- Tuesday 08h00
- Tuesday 09h00
- Tuesday 12h00
- Any student can participate in any forum time slot

Facilitated group learning

Day and time to be confirmed

Video Lectures and Practicals (cont'd...)

Practicals

- All practicals are presented interactively on SUNLearn
- Practical participation by complete class group
- Every Wednesday 14h00-16h30
- Interactive online assistance available

Video Lectures and Practicals (cont'd...)

Assignments

- All programming must conform to guidelines – *C Programming Style Guide* (learn.sun.ac.za)
- Code handed in is tested for copying; copying / plagiarism is an offense for which you can be suspended from the university; you are responsible for the security of your code!
- Marks queries limited to within 7 days of publication of assignment/test marks

Weekly assignments and tests

- Assignments consist of programming questions
- Available on Friday afternoon prior to the practicals on learn.sun.ac.za
- During the practical a (weekly) test will be written that will count towards your class mark

Assessment

Flexible Assessment

The module uses *Flexible Assessment*

Mark for weekly programming tests

- If more than 2 unsatisfactory practical tests (test missed, not written correct time slot) – **INCOMPLETE**
- Weekly tests mark P_W is average of all marks for the weekly practical tests excluding the 2 worst tests

Assessment (cont'd...)

Semester mark

- Semester mark S = $1 \times P_W$

Tests

- 2 Tests A_1 and A_2 (3^{rd} if needed)
- Final mark = $0.1 \times S + 0.4 \times A_1 + 0.5 \times A_2$

Development Environment and Compiler

IDE and compiler

- IDE: Code::Blocks (Windows/Linux/Mac)
- Compiler: Gnu C-Compiler (GCC)
- Installation and instructions for Windows available on learn.sun.ac.za
- Linux/Mac see www.codeblocks.org

Information Sources

Sources

- Textbook: Deitel, P.J. & H.M., *C How to Program*, 8^{th} edition, Pearson, 2016.
- Extra notes

Examples and problems

- Problems from textbook (see learn.sun.ac.za)
- Many example problems on learn.sun.ac.za
- Optional problems in assignments

Communication Channels

Communication channels

- The first year class is very big
- It is important that questions, suggestions and concerns be addressed to the right person
- It ensures a speedy answer
- The course webpage is available on learn.sun.ac.za
- The video lecture Q/A forum is available for **technical** questions and/or discussions. *Before you ask, please check if your question has not been discussed previously. Please keep your questions short, to the point and relevant to the course material.*
- All other requests and queries should be sent to:

  RP143@sun.ac.za

Aim of Module

A student who has successfully completed this module can:

- Understand the composition of a computer system
- Interpret a typical engineering problem and develop software to solve it by:
  - *Designing an efficient algorithm that would solve the problem and presenting it as a flow diagram and/or pseudocode*
  - *Implement the algorithm as a computer program*
- Create code that is:
  - *Easily read and understood by third parties*
  - *Well documented*
  - *Modular*
  - *Easily expandable and reusable*
- Implement appropriate data types and structures in programs

Aim of Module (cont'd...)

A student who has successfully completed this module can:

- Master the following C skills/concepts
  - *The seven control structures*
  - *Effective use of the C standard library functions*
  - *Effective use of arrays, pointers, characters, strings and structures*
  - *Use of user defined libraries*
  - *C Debugging (syntax and logical errors)*
  - *File processing*

Guidelines and Tips

Tips

- Workload: 9 hours per week
  - 3 h video lectures
  - 2.5 h practical
  - 3.5 h self study
- Stay up to date
- Read the textbook
- Use the material on learn.sun.ac.za
- Ask if you are confused
- Program!

Homework

Homework

1. Read the study guide (learn.sun.ac.za)
2. Read the C programming style guide (learn.sun.ac.za)
3. Read the communication channels document (learn.sun.ac.za)