Welcome

COMP2209 - Programming III

Dr Julian Rathke
Welcome to Programming III

• The key aims of this course are for you to
  • Learn Functional Programming as a new programming paradigm
  • Understand the underlying evaluation (or computation) mechanisms for programming languages
• To achieve these we’ll need to learn a new programming language : Haskell
• But we’ll also look at Functional Programming as an idiomatic programming style in Java and Javascript
• We’ll be using this language to study evaluation in languages by writing a simple interpreter and what that entails.
The Teaching Team

- Dr Julian Rathke (that’s me!) is the module leader: I’ll be giving most of the lectures  jr2@ecs.soton.ac.uk

- Dr Andy Gravell (him in the middle) is in charge of assessment on the module  amg@ecs.soton.ac.uk

- Dr Tope Omitola (the handsome chap on the right) will be leading the Monday tutorials  T.O.Omitola@soton.ac.uk
Administration

- There are **two** sessions per week:
  - **Mondays 4pm-6pm** Building 65 (Avenue), Room 1133 (L/T A)
  - **Thursdays 3pm - 5pm** Building 07, Room 3009 (L/T A)

- The Monday session is a tutorial - we will discuss solutions to the weekly exercises that are to be set. You will be encouraged to ask lots of questions, ask for feedback and to show your solutions to exercises. For best results - bring a laptop.

- The Thursday session is a double lecture where we will cover the course material

- You are expected to attend **all** sessions.
More administration

- This module is assessed by a mixture of coursework (programming exercises) and examination.
- There will be two coursework assignments:
  - Coursework 1: worth 30% of module total (Due 9th Nov)
  - Coursework 2: worth 35% of module total (Due 7th Dec)
- Instructions for the coursework and its submission will be posted on the module website nearer the time. Both will be Haskell programming tasks based upon the course material.
- The remaining 35% of the module total is provided by the examination at the end of Semester 1. This will be a knowledge based test on concepts from the module.
So what topics are we studying?

- Introduction to functional programming
- Types, Classes and Functions
- List Comprehension and Recursion
- Higher Order Functions
- Declaring Types
- Evaluation Order and Laziness
- Interpreters and Closures
- Functional I/O and Monads
- Functional Programming in Java and JavaScript
- Programming with Streams
YOUR QUESTIONS

Next lecture:
Introduction to Functional Programming and Haskell