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 (in the middle) is in charge of assessment on the module  amg@ecs.soton.ac.uk

• Dr Anna-Lisa Ferrara (on the right) will be leading the Tuesday lab sessions  AL.Ferrara@soton.ac.uk
Administration

• There are **three** sessions per week:
  • **Tuesdays 10-11am** Building 25, Room 1009
    or **11am-12pm** Building 44, Room 1061
  • **Thursdays 3pm-5pm** Building 46 (Avenue), Room 3001
  • **Fridays 4pm - 6pm** Building 07, Room 3009

• The Tuesday session is a lab - we will provide **feedback** on your solutions to the weekly exercises that are to be set. For best results - do the sheets **in advance** of the session.

• The Thursday and Friday sessions are lectures where we will cover the course material and do some worked exercises.

• 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 8th Nov)
  - Coursework 2: worth 35% of module total (Due 13th 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