G51MCS Mathematics for Computer Scientists Lecture 1

Administrative Details and Introduction

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Finding People and Information (1)

Lecturers:

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Finding People and Information (2)

Teaching Assistants:

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Finding People and Information (3)

- Main module web page:
  `www.cs.nott.ac.uk/~nhn/G51MCS`
- Coursework/Tutorials web page:
  `www.cs.nott.ac.uk/~jff/G51MCS`

Contacting Us

- Lecturers will be available immediately after each lecture for module-related matters.
- Lecturers and TAs can be contacted using e-mail.
- Make an appointment if necessary.

Aims of the Course

To provide basic mathematical skills needed within a Computer Science degree course, specifically:

- understanding of basic mathematical concepts, definitions and notation of particular relevance in Computer Science;
- the ability to understand and apply simple logical reasoning;
- the ability to use mathematics to solve problems.

Organization

- ***Lectures:*** Two per week.
- ***Coursework:*** Weekly assessed problem sets. Best 6 of 9 counts.
- ***Tutorials:*** Weekly in small ($\approx$ 25 students) groups.
  - Check tutorials page for group division.
  - Make sure you're in a a group!
- ***Assessment:*** exam (75 %), coursework (25 %)

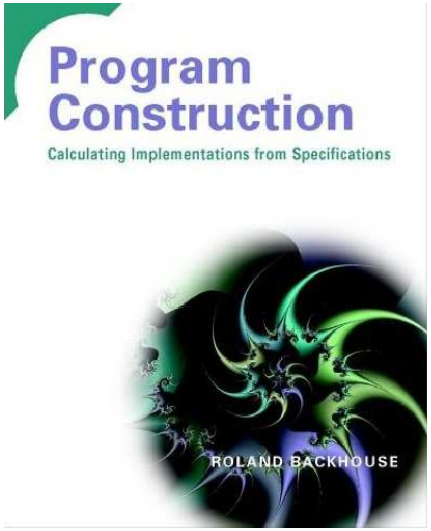
Coursework and Tutorials

- Tutorials support the coursework.
- Weekly, except two breaks the weeks when G51APS coursework is due.
- First piece of coursework is special: just to assess what you know already.
  Full marks for trying!
- Tutorials start week commencing 8 October: see the tutorials page for detailed schedule.

Literature

- Main reference: Roland Backhouse. *Program Construction: Calculating Implementations from Specifications*, Wiley, 2003.
- Secondary text: David Gries and Fred B. Schneider. *A Logical Approach to Discrete Math, 2nd revised edition*, Springer-Verlag, 2000.
- Your own notes from the lectures!
- Supplementary material, e.g. slides.

Literature (2)



Content

- Logic
- Boolean algebra
- Simple number theory (e.g. greatest common divisor, combinatorics)
- Sets, functions, and relations
- Quantifiers
- Induction on natural numbers

Ties with G51APS: G51MCS provides techniques, G51APS applications.