Outline

Syllabus

Resources
• Part A (up to reading week): Algorithms
  • Graph algorithms
  • Flow optimization and matching
  • String algorithms
  • Linear programming
  • Integer programming
• Part B (after reading week): Complexity
  • Turing Machines and computability
  • Computational complexity; propositional satisfiability
  • Hardness and reductions
  • Graph-theoretic algorithms (again)
  • Savitch’ theorem and the Immerman-Szelepcsényi theorem.
  • Revision
• Coursework (25%)
  • Coursework A
    Issue date: Thursday 5th October
    Hand-in date: Thursday, 19th October @ 12:00 (SSO)
    Review: Thursday 26th October
  • Coursework B
    Issue date: Thursday 9th November
    Hand-in date: Thursday, 23rd November @ 12:00 (SSO)
    Review: Thursday 30th November

• Exam (75%)
  • Answer 3 questions in 2 hours.
  • Previous years’ exams provide a guide to the style of questions.
Outline

Syllabus

Resources
• Course texts
  
  Title: Algorithm design: foundations, analysis and internet examples  
  Author: Goodrich, Michael T. and Roberto Tamassia  
  ISBN: 0471383651  
  Publisher: Wiley  
  Year: 2002

  Title: Introduction to the theory of computation  
  Author: Sipser, Michael  
  ISBN: 053494728X  
  Publisher: PWS Publishing Company  
  Year: 1997
• Principal course website
  http://studentnet.cs.manchester.ac.uk/ugt/2017/COMP36111/syllabus/

• Course materials page
  http://studentnet.cs.manchester.ac.uk/ugt/2017/COMP36111/
    • homework exercises
    • lecture overheads
    • fun problems