

COMP2003 – Maths & Stats

Course structure

- 40 hours lectures + 20 hours problem classes spread over two terms.
- Term 1 = Maths, Term 2 = Stats.
- Term 1: Lectures = 9-11 Fridays;
problem class = 4-5 Thursdays
- Term 2 – Hilde Herbots from Stats Dept.



N.B. No problem class in Week 1

Exam Structure

- Stats & Maths sections.
- All Questions compulsory.

Sample maths Qs

7. a) What is the indefinite integral of $\frac{1}{2}x^3$
- b)** Evaluate the definite integral $\int_0^1 2x \sin x^2 dx$
8. a) Evaluate $(-3-i)(2-i)$
- b)** Write $\pi + \pi i$ in the form $re^{i\theta}$
9. If $\vec{p} = \begin{pmatrix} 3 \\ 2 \\ 1 \end{pmatrix}$ and $\vec{q} = \begin{pmatrix} 0 \\ 2 \\ -1 \end{pmatrix}$
- a) what is $\vec{p} \cdot \vec{q}$?
- b)** What is $\vec{p} \times \vec{q}$?

Problem Classes

- Problem sheets given out each week, and posted on website (<http://lewis.d.griffin.googlepages.com/comp2003-maths&statsforcs>).
- Questions and Answers gone over in problem sessions with Matthews Higgs, 4pm Thursdays. Answers posted on website after sessions. Answers will not be taken in or marked.

Coursework

- A classroom test during lecture on Friday 6th November.

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Test done in classroom, and separately without time-limit and using books at home. Final mark is average of two marks.

- An essay coursework to be handed in at beginning of Term 2. Details later.

Syllabus

Grounding in maths & stats most relevant to a Computer Science degree.

Maths:

trigonometric, exponential & logarithmic fns;
functions of one and two variables
derivatives & integration
complex numbers

Stats:

probability
descriptive statistics
discrete random variables
continuous random variables
statistical estimation
hypothesis testing

Course Books:

Schaum's Outlines:

Calculus (from £4 used on Amazon,
£8 at Waterstone's online).

&

Advanced Calculus (from £3.50 used on
Amazon, £7 at Waterstone's online).

NB. You will need these books or
similar. I will not be photocopying the
huge number of pages of notes that you
would need.

Maths Course Structure

Date	Subject
9 th October	Types of Number, Coordinate systems, Lines & Circles (C1-4, A1)
16 th October	Equations, Functions & Graphs (C5-8, A3)
23 rd October	Differentiation (C9-15, A4)
30 th October	Trigonometric, Log and Exponential Functions (C16-18,25-26)
6 th November	CLASSROOM TEST
20 th November	Integration (C22-24, A5)
27 th November	Power Series (C46-47, A11)
4 th December	Vectors (C50, A7)
11 th December	Geometry of functions of two variables (C48,51-52, A6)
18 th December	Complex Numbers (A1)