Interdisciplinary teaching of computing (case study: Mathematics)

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How to Teach Computing to Maths Students: Options

- Muddle through — "they must have learnt some of this at school", and the Numerical Analysis (or Statistics) lecturer can fill in the gaps.

- The current (as opposed to planned) school curriculum does not teach programming, and Computing A-level has less than 5% the uptake of Mathematics.

- Teach it in Mathematics, generally in Numerical Analysis.

- This generally meets the aims of the course, but not the wider aims.

- Have it taught as service teaching by Computer Science.

- This generally meets the wider aims, but is disconnected from the rest of the curriculum and, worse, is perceived as such by the students.

- Joint curriculum development team for an integrated curriculum
- Choose the vehicle for the students
- * For us, this was MatLab
- Team teaching (alternate lectures) and tutoring
- A custom textbook covering all aspects
- * Note that these days this is feasible for > 80 students
- Inter-related Maths/Computing exercises
- It's actually hard work

Benefits

1. Fewer, more positive, "why are we doing this" questions, and a better answer!
2. Marked improvement noted by 2/3 year Numerical Analysis lecturers
3. R programming has ceased to be an issue for Statistics lecturers
* These are the immediate customers of Year 1 courses
4. Positive notes from sandwich students

   "While only a small number use MatLab directly, a common statement is that the programming skills they learnt in first year through MatLab and R helped them in their placement" — Placement Officer.