School Of Mathematics, Statistics, and Operations Research
Te Kura Mātai Tatauranga, Rangahau Pūnaha

MATH 321/322/323 Applied Mathematics T1 and T2 2013

Module on Quantum Physics

Administrivia:

- One module being offered this year is a reading-course/project on the mathematical foundations of Quantum Physics.
- The module boils down to reading and understanding the notes I will make available on the course website, and doing a selection of exercises, plus a brief one-hour exam.
- For trimester 1 all assignments must be handed in by Friday 17 May 2013. (Approximately 3/4 through the trimester.)
- For trimester 1 the exam will be arranged sometime during the week of Monday 27 May 2013 to Friday 31 May 2013. (2nd to last week of classes.)
- For Math 321/322/323 there are 4 assignments; for Honours level (Math 466) there is a 5th assignment.
- This module is equivalent to 18 lectures, and I want everyone who is interested (and who has not already put their name on the sign-up sheet) to contact me *soon*.
- See the course website for more details, notes, and assignments:
  http://msor.victoria.ac.nz/Courses/Math321_2013T1 (trimester1).
  http://msor.victoria.ac.nz/Courses/Math321_2013T2 (trimester2).
- All assignments (and supplementary notes) will be made available on the course website.

- Apart from this cover sheet, no physical pieces of paper will be handed out.
- No formal office hours — contact me via e-mail or drop by my office.

Topics to be covered:

- Introduction to quantum physics — some basics.
- Heisenberg uncertainty principle.
- Tunnelling.
- One dimensional scattering.
- Scattering matrix in one dimension.

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