

# PMAT 4341 – Winter 2010

## Combinatorial Design Theory

### Instructor

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### Course Info

- Location: Henrietta Harvey Building – Room 3017
- Class Times: 10:30 – 11:45pm on Tuesday and Thursday
- Prerequisites: PMAT 3320 (Abstract Algebra) or PMAT 3340 (Introductory Combinatorics)
- Textbook: “Combinatorial Designs and Tournaments,” by Ian Anderson. Oxford University Press. ISBN 0198500297.

### Course Outline

- Chapter 1 Introduction to basics
- Chapter 2 Difference methods
- Chapter 3 Symmetric designs
- Chapter 4 Orthogonal Latin squares
- Chapter 5 Self-orthogonal Latin squares
- Chapter 6 Steiner systems
- Chapter 7 Kirkman triple systems

Time permitting, additional material will be covered.

### Method of Evaluation and Related Policies

- Assignments will be due at the time and date announced when distributed. Assignments can be submitted to the designated assignment box in the corridor near the Math & Stats General Office. Late assignments will not normally be accepted and will receive a grade of zero.
- Plagiarism, cheating, and academic dishonesty will not be tolerated.
- It shouldn't need to be said, but inevitably somebody puts me through this test... on homework, quizzes, tests, etc, I expect you to show your work. Simply stating the answer (even if you're correct) will rarely get you full credit; the work behind your answer is usually given more credit than the answer itself. In short, your job is to *show* that you know *how* to do the exercises.

Likewise, your work should reflect clear content as well as coherent and organised structure. Part of what this means is that your work should be clear to follow and should show a logical progression of thought. Arguments that wander around the point, or which include extraneous and/or confusing side details, are inferior to arguments that do not go astray at

times. Likewise, if you have to guide me through your work in order to point out your thought process (again, even if you got the correct answer in the end), then you shouldn't expect to get full credit.

- Be aware that not all learning takes place in the classroom. Expect to devote time to ensure that you fully comprehend and understand the material. This will likely entail reading from the textbook, consulting with additional resources, engaging in interactive discussions, as well as doing exercises beyond those which are assigned.
- Quizzes and/or tests will be regularly administered. Crib sheets will not be allowed. Expect to have photo-id checked during each test and exam.

Make-up quizzes and tests will be given only for legitimate absences, and only if the request for a make-up is brought to my attention no later than the day that you next attend class; otherwise, a score of zero will be assigned for any missed quizzes and/or tests. I reserve the right to require documentation supporting the absence.

- The final exam will be comprehensive.
- Final grades will be based upon the following scheme

Homework:	30
Quizzes and/or Tests:	30
Final Exam:	40
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- Requests for “extra-credit” projects will be denied. Put simply, your grade will be based upon the required course-work as indicated above.

## If You're Thinking of Majoring in Math...

... but aren't sure what career options would be available with a Math degree, then here are some resources that you can look at:

- <http://mathcentral.uregina.ca>
- “101 Careers in Mathematics” by Andrew Sterrett. Call Number: QA 10.5.A15 1996
- “She Does Math!” by Marla Parker. Call Number: QA 27.5.S53 1995
- [www.ams.org/careers/](http://www.ams.org/careers/)
- [www.maa.org/careers/index.html](http://www.maa.org/careers/index.html)

And if you want to talk to somebody for academic advice concerning programmes of study in Mathematics, you can see Harold Johnson in the Henrietta Harvey Building, Room 3004.

If you're thinking of graduate school, feel free to bring that up in conversation with me sometime.