

C&O 434/634 — Combinatorial Designs

MWF 13:30-14:20, CPH 3604

Instructor: Prof. Kevin Purbhoo

Office: MC 4029, 519-888-4567 ext. 35135

E-mail: kpurbhoo@math.uwaterloo.ca

Course webpage: <http://www.math.uwaterloo.ca/~kpurbhoo/co634/>

Office hours: To be announced.

Topics: Block designs, Symmetric designs, Hadamard Matrices, Planes, Orthogonal Arrays, Block Intersections, t-Designs, Witt Designs, Groups and Matrices, Mutually Unbiased Bases.

Prerequisite: PMATH 336 or 346; cumulative overall average of at least 80%.

Text: Course notes by C. Godsil, available on the course webpage.

Marking scheme: Final marks will be calculated as follows:

$$20\% \text{ homework} + 20\% \text{ midterm} + 60\% \text{ final exam}$$

Where appropriate, adjustments may be made to raw marks, before this formula is applied; no additional adjustments will be made to the final marks.

Homework: Homework assignments will be due every 2–3 weeks. Students are expected to turn in all assignments. C&O 634 students will be held to a higher standard than C&O 434 students. Extensions for homework may be granted under reasonable circumstances, but must normally be requested at least two days before the assignment is due. Where no extension has been granted, late homework will accepted up to one week after the due date, but will receive a maximum of 75% credit.

Midterm: A midterm test will be held in class (date to be announced). Any student who misses the midterm without a legitimate reason (i.e. medical, or with the instructor's prior permission) will be assigned a mark of zero for the exam.

Policy on missed final exam: In the case of illness during the final exam, a make-up exam or incomplete grade will only be granted to students who have completed the required term work to satisfactory standards.

Avoiding academic offenses: Students are expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for their actions. Students who are unsure whether an action constitutes an offense, or who need help in learning how to avoid offenses (e.g., plagiarism, cheating) or about “rules” for group work / collaboration should seek guidance from the course professor, TA, academic advisor, or the Undergraduate Associate Dean. For information on categories of offenses and types of penalties, students should refer to Policy #71, Student Academic Discipline,

<http://www.adm.uwaterloo.ca/infosec/Policies/policy71.html>

Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance,

<http://www.adm.uwaterloo.ca/infosec/Policies/policy70.html>

Note for students with disabilities: The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.