University of Regina

SYLLABUS

COMBINATORICS

MATH 828 – WINTER 2026

Instructor:	Alice Lacaze-Masmonteil (Alice.Lacaze-masmonteil@uregina.ca)
Course webpage:	`https://urcourses.uregina.ca/user/index.php?id=39911`
Classes:	Monday and Wednesdays 3:45pm-5:00pm
Office hours:	After class

Course-related material, such as homework assignments or topics cover per course, will be posted on URCourses.

Textbook: *Combinatorial Designs, Construction and Analysis,* by Douglas R. Stinson. Additional open-source materials will be provided via UR Courses to support your studies.

Catalog Description: A graduate level course designed to introduce students to various types of combinatorial designs with emphasis placed on constructive proof methods.

Structure: Mondays will be lectures and Wednesdays will be problem solving sessions.

Learning objectives

- Balanced Incomplete Block Designs (BIBDs);
- Symmetric BIBDs;
- Steiner Triple Systems;
- Resolvable BIBDs;
- Kirkman Triple Systems;
- Latin Squares;
- Orthogonal Arrays;
- t-designs.

Grading Policy: The final grade will be based on class participation, six assignments, and one final project:

- **In-class participation**: 30% of your grade;
- **Assignments**: 35% of your grade;
- **Final project**: 35% of your grade.

The final project will be comprised of one oral presentation and a paper introducing a type of designs not seen in class.

A final grade of less than 70% is a failing grade for graduate courses.

Attendance Policy:
Attendance is STRONGLY recommended, but attendance will not be taken.

Materials Copyright:

Academic Fraud: Academic fraud is an act by a student that may result in a false evaluation. It is not tolerated by the University. Examples of academic fraud are: plagiarism, cheating of any kind or submit a work for which you are not the author, in whole or part. Any person found guilty of academic fraud will be subject to severe sanctions. Please consult the webpage

`https://academic-integrity.uregina.ca` which contains regulations and tool to help you avoid plagiarism.