



Faculty of Science
DEPARTMENT OF MATHEMATICS AND STATISTICS
Course Information Sheet

1. **Course:** **PMAT 319** **Transformation Geometry** **WINTER 2005**
Lecture/Time/Session: L01 MWF 15:00 (50 Minutes) Room: SB148
T01 MW 16:00 (50 Minutes) SB 148

Instructor(s): Dr. Aiden A. Bruen
Office: MS 416 / Ph: 220-6324
Email: bruen@math.ucalgary.ca

2. **Prerequisites:** Mathematics 211 or 221 and one other 200-level Mathematics Course.

Co-requisites: None

NOTE: The Faculty of Science policy on pre- and co-requisite checking is outlined in the current University Calendar (see <http://www.ucalgary.ca/pubs/calendar> Faculty of Science, section 5C. **It is the students' responsibility to ensure that they have the pre- and co-requisites for the course. If they do not, they will be withdrawn from the course without notice.**

3. **Fee policy:** After the last day to drop/add courses, there will be no refund of tuition fees if a student withdraws from a course, courses or the session. This date is January 21, 2005.

4. **The University policy on grading and related matters** is described in the current University Calendar, Academic Standings. In determining the overall grade in the course, the following weights will be used:

Assignments	10%
Mid-Term Test [2]	30%
Project	10%
Class Participation	10%
Final Exam	40%

A passing grade on any particular component of the course is essential to passing the course as a whole. There will be a final examination scheduled by the Registrar's Office. ***The use of aids such as open book, etc. is not permitted.

5. **Missed Components of Term Work.** The regulations of the Faculty of Science pertaining to this matter are outlined in the current University Calendar, Faculty of Science, section 6A. It is the student's responsibility to familiarize herself/himself with these regulations.

6. **Academic misconduct** (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the current University Calendar. See <http://www.ucalgary.ca/honesty/>

7. **Dates and times of class exercises held outside of class hours (evening tests, Saturday laboratory examinations, weekend field trips, etc.):** There will be no out-of-class-time activities.

Tentative Lecture Schedule: See attached page.

Faculty of Science
DEPARTMENT OF MATHEMATICS AND STATISTICS
Course Information

PURE MATHEMATICS 319
"TRANSFORMATION GEOMETRY"
WINTER 2005

Calendar Description: H(3-1T)

Geometric transformations in the Euclidean plane. Frieze patterns. Wallpaper patterns. Tessellations.

Prerequisite: Mathematics 211 or 221 and one other 200-level Mathematics course.

Suggested text: "Transformation Geometry", by G.E. Martin.

Syllabus (Approximate: time permitting)

<u>Topics</u>	<u>Number of hours</u>
Ch.1: Introduction (geometry and algebra)	3
Ch.2: Transformations	2
Ch.3: Translations and halfturns	3
Ch.4: Reflections	3
Ch.5: Isometries	3
Ch.6: Translations and rotations	2
Ch.7.1: Even isometries	3
Ch.8.1: Glide reflections	2
Ch.7.2 and 8.2: Symmetry	4
Ch.10: Frieze groups	4
Ch.11: Wallpaper groups	7
	36

Mid-term I: Week beginning February 7

Mid-term II: Week beginning March 21