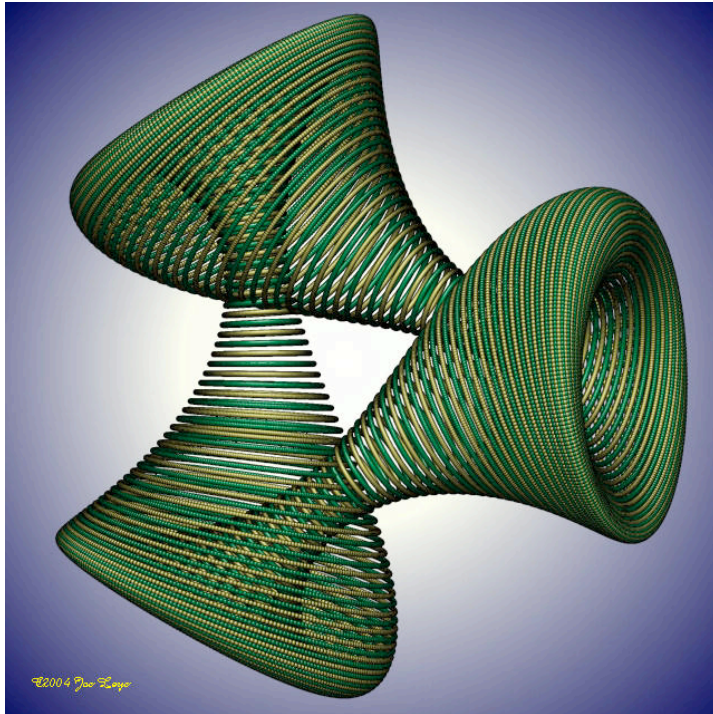


Math 1020/FA 1020

Math In Art A02

6:00-8:30 PM
Tuesdays & Thursdays
Art Lab 136

Instructors
Darja Kalajdziewska; Math Part
Jaya Beange; Art Part



Textbook: *Math and Art: An Introduction to Visual Mathematics* by Sasho Kalajdziewski and R. Padmanabhan. [Note: the royalties for the books sold in the U of M bookstore go back to students through scholarship funds.]

The main themes of study include: golden mean, golden rectangles, Fibonacci spirals, symmetries and other organizing principles, frieze patterns, wall paper groups, tilings & tessellations, fractals, string art and conics, perspective drawing, Platonic solids and regular polyhedra, Escher-style hyperbolic art, and isotopy and homotopy of topological objects.

Scheme of Evaluation:
Art Projects: 40%,
Midterm Exam (one hour): 25%,
Final Exam (two hours): 35%.
VW Date: July 28, 2015.

MATH 1020 is not available to any student already holding a grade of "C" or better in any mathematics course with the exception of MATH 1010 or MATH 1190 or MATH 1191 (136.119). Not to be taken concurrently with any other mathematics courses with the exception of MATH 1010 or MATH 1190 or MATH 1191.

Faculty of Science Statement on Academic Dishonesty

The Faculty of Science and The University of Manitoba regard acts of academic dishonesty in quizzes, tests, examinations, laboratory reports or assignments as serious offences and may assess a variety of penalties depending on the nature of the offence.

Acts of academic dishonesty include, but are not limited to bringing unauthorized materials into a test or exam, copying from another individual, using answers provided by tutors, plagiarism, and examination personation.

Note: cell phones, pagers, PDAs, MP3 units or electronic translators are explicitly listed as unauthorized materials, and must not be present during tests or examinations.

Penalties that may apply, as provided for under the University of Manitoba's Student Discipline By-Law, range from a grade of zero for the assignment or examination, failure in the course, to expulsion from the University. The Student Discipline By-Law may be accessed at:

http://umanitoba.ca/admin/governance/governing_documents/students/868.htm

Suggested minimum penalties assessed by the Faculty of Science for acts of academic dishonesty are available on the Faculty of Science web-page:

http://umanitoba.ca/faculties/science/resources/Discipline_Penalties_Table_Jul09.pdf

All Faculty members (and their teaching assistants) have been instructed to be vigilant and report all incidents of academic dishonesty to the Head of the Department.

1020 Tentative Schedule of Topics / Dates:

WEEK	DAY	TOPICS	MATH (DK)	ART (JB)
1	1	Course overview, Euclidean Constructions	June 23	June 23
	2	Golden Ratio	June 25	
2	3	Ratio, Proportion and Aesthetics		June 30
	4	Fibonacci Numbers, Symmetry (part 1)	July 2	
3	5	Symmetry (part 2) & Fractals	July 7	
	6	Symmetry and Fractals in Art		July 9
4	7	MIDTERM (in class), Perspective Drawing	July 14	
	8	Perspective and Optics		July 16
5	9	Conic constructions, Planar tilings	July 21	
	10	Tiling, Hyperbolic Geometry, Topology in Art		July 23
6	11	Platonic Solids, Hyperbolic Geometry (1) VW DATE	July 28	
	12	Hyperbolic Geometry (2), Topology	July 30	
7	13	Art Summary		Aug 4
	14	Final review	Aug 6	
		FINAL EXAM, 9am-12pm	Aug 8	

Darja Kalajdziewska's Info:

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Office: 427 Machray Hall (office hours by appointment)

Course Website: <http://server.maths.umanitoba.ca/homepages/kalajdzi/>