Math 1020/FA 1020
Math In Art

Additional Information

Material covered (refer to the textbook):

Section	Pages	Suggested Problems
1.1. Euclidean Geometry	1-6	
1.2. Euclidean Constructions	6-14	1-8
1.3. Golden Ratio	14-24	1-11
1.4. Fibonacci numbers	24-31	1-6
2.1. Plane Symmetries	33-42	1-9
2.3. Groups of Symmetries	55-60	1-7
2.4. Frieze Patterns (part)	61-72	1-3
2.5. Wallpaper designs; Tilings (part)	72-81	
2.6. Tilings and Art (part)	81-89	
3.1. Similarities	91-100	1-7
3.3. Fractals (part)	100-123	1-4
3.4. Julia Sets (part)	123-131	1-3
4.1. Non-Euclidean Geometries	143-146	
4.2. Inversion	146	
4.3. Hyperbolic Geometry	153-158	
4.4. Hyperbolic Constructions	158-163	1-7
4.5. Tilings in Hyperbolic Plane (part)	163-167	
5.1. Perspective	169-181	1-9
5.3. Polyhedra (part)	197-206	1-4
5.4. Conic Sections (part)	206-216	1-6
6.1. Homotopy	223-230	1-6
6.2. Two-Manifolds and Euler (part)	230-237	1-6
6.3. Other Manifolds (overview only)	237-247	

Web pages for this course, this section.

http://server.maths.umanitoba.ca/homepages/sasho/
The main page: contains links to old and new courses, including this one.

http://server.maths.umanitoba.ca/homepages/sasho/CurentCourses/Math_Art_Spring_2010/MathInArt.html. A page dedicated to this course, this section. Contains illustration, a few movies and handouts. Solutions of the midterm exam problems, as well as the results will be posted here.

http://home.cc.umanitoba.ca/cgi-bin/discus/discus.cgi
A discussion page: a place to ask questions and look for answers.

http://webware.cc.umanitoba.ca:8080/webMathematica/Files/MathInArt.html
WebMathematica Page: contains applets for real-time manipulation and drawing of various objects (fractals, tilings etc.)