Andrew Vince

Department of Mathematics

College *of* Liberal Arts *and* Sciences

Topics in Combinatorics

MAD 7396
Fall 2023

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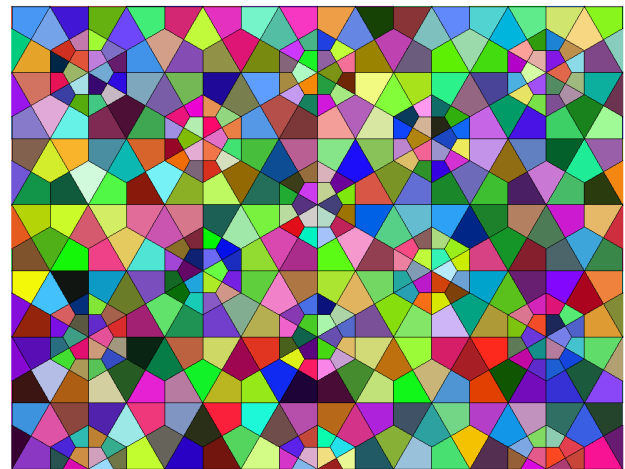
Time: MWF period 5
Place: 205 Little Hall
Email: avince@ufl.edu
Office : 438 Little Hall
Office hours: MWF – period 8 or by appointment

References:

Tilings and Patterns - Grunbaum and Shephard
The Tiling Book - C. Adams
Miles of Tiles - C. Radin

Tiling

The mathematics of tiling has a history extending from Johannes Kepler's study of tiling by regular polygons in his 1619 Harmonices Mundi to the recent 2023 solution to the einstein tiling problem which had been open since the 1960s. Combinatorics, geometry, linear and abstract algebra, and topology all play a role. This course will cover a rich assortment of topics in tiling theory.

Homework

See canvas.

Topics

A little history

Archimedean tilings

Monohedral polygonal tiling

Symmetry of tilings

Aperiodic prototiles

Fractal tiling

Tiling spaces

Grades

Each student will give a couple of short in class presentations.

Campus Resources

The course will be conducted in accordance with the Academic Honesty Policy and policy regarding the use of copyrighted material.

Students with disabilities requesting accommodations should first register with the Disability Resource Center by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Academic advise and tutoring, as well as health advise (physical and mental) is available to students.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: Attendance Policies

Information on current UF grading policies for assigning grade points may be found at: Grades

Students are expected to provide feedback on the quality of instruction in this course by completing a course evaluation online via GatorEvals. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals or in their Canvas course menu under GatorEvals.

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