

# NMAG403 - Combinatorics

November 15, 2024 – Planarity

## In class problems

35. (**Fáry embedding**) Prove that every planar graph has a planar non-crossing drawing in which all edges are drawn as straight-line segments.
36. (**Unique drawing**) Show that every planar vertex-3-connected graph has a unique planar drawing upto 1) the choice of the outerface, 2) mirror image, and 3) a homeomorphism of the plane.
37. Find the “Kuratowski graphs” (i.e., minimal obstructions) for outerplanar graphs. (A graph is outerplanar if it has a planar non-crossing drawing such that all vertices are incident with the outerface of the drawing.)