

1106-05-1105 **Stacey Renae McAdams*** (smcadams@latech.edu), Ruston, LA. *Deer : Forbidden Minimal Digraphs*. Preliminary report.

Kuratowski's theorem implies that a non-directed graph G is outerplanar, or has book thickness 1, if and only if G contains neither K_4 -minors nor $K_{2,3}$ -minors. In that sense, minors of K_4 or $K_{2,3}$ are forbidden minimals for G to be book thickness 1. We aim to extend the theorem to directed graphs D by using a directed book embedding and, in the process, found a series of directed graphs called *deer* that are forbidden minimals for D to be book thickness 1. (Received September 11, 2014)