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**Thomas Kindred\*** ([kindret@wfu.edu](mailto:kindret@wfu.edu)). *A simple proof of the Crowell-Murasugi theorem.* Preliminary report.

I will give a new, simple proof of the classical theorem, proven independently in 1958-59 by Crowell and Murasugi, that the breadth of the Alexander polynomial of any alternating knot equals twice the knot's genus; the theorem implies as a corollary that applying Seifert's algorithm to any alternating knot diagram yields a minimal genus Seifert surface. The proof motivates a natural question about non-alternating knots, which I will also discuss through examples. (Received August 17, 2021)