1100-57-83 **Lance D. Drager**, Department of Mathematics and Statistics, Texas Tech University, Lubbock, TX 79409, **Jeffrey M. Lee**, Department of Mathematics and Statistics, Texas Tech University, Lubbock, TX 79409, **Efton Park*** (e.park@tcu.edu), Department of Mathematics, Box 298900, Texas Christian University, Fort Worth, TX 76129, and **Ken Richardson**, Department of Mathematics, Box 298900, Texas Christian University, Fort Worth, TX 76129. *Smooth Distributions are Finitely Generated.*

A subbundle of variable dimension inside the tangent bundle of a smooth manifold is called a smooth distribution if it is the pointwise span of a family of smooth vector fields. We prove that all such distributions are finitely generated, meaning that the family may be taken to be a finite collection. Further, we show that the space of smooth sections of such distributions need not be finitely generated as a module over the smooth functions. Our results are valid in greater generality, where the tangent bundle may be replaced by an arbitrary vector bundle. (Received January 30, 2014)