

*An introduction to geometric measure theory*

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The scope of these lectures is introducing students to various key ideas from Geometric Measure Theory (GMT). We will examine the most relevant features of rectifiability, and of the theories of sets of finite perimeter and rectifiable varifolds which have been built upon it. We will explain what is a “small excess regularity criterion”, an idea that originated in GMT and that is now fundamental in the analysis of many nonlinear PDE. Time permitting, we will illustrate these ideas in action by showing the existence of minimizers in various formulations of Plateau’s problem (following our joint paper with Camillo De Lellis and Francesco Ghiraldin.)