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| | **abstract** | These are extended notes of the course given by the author at RIMS, Kyoto, in October 2016. The aim is to give a self-contained overview on the recently developed approach to differential calculus on metric measure spaces. The effort is directed into giving as many ideas as possible, without losing too much time in technical details and utmost generality: for this reason many statements are given under some simplifying assumptions and proofs are sometimes only sketched. | **abstract** | These notes are intended to be an invitation to differential calculus on RCD spaces. We start by introducing the concept of an \u201cL 2 -normed L 1e -module\u201d and show how it can be used to develop a first-order (Sobolev) differential calculus on general metric measure spaces. In the second part of the manuscript we see how, on spaces with Ricci curvature bounded from below, a second-order calculus can also be built: objects like the Hessian, covariant and exterior derivatives and Ricci curvature are all well defined and have many of the properties they have in the smooth category | | |
| | **versions** | | **versions** | | | |