

In this thesis, we study modern invariants of Legendrian knots on  $\mathbb{R}^3$  with a standard contact structure. We introduce the notion of Chekanov-Eliashberg algebra (DGA) and Legendrian contact homology. Then we consider representations of DGA as a way how to derive some computable invariants of Legendrian knots. Finally, we will find equivalence classes of graded 2-dimensional irreducible representations for a certain Legendrian knot.