1 Lecture 11: Inductors, RL filters and Transformers.Introduction to working principle of inductor In Electromagnetism, when an electrical current flows through a wire conductor, a magnetic flux is developed around that conductor.The Inductor An Inductor is a passive electrical component consisting of a coil of wire which is designed to take advantage of the relationship between magnetism and electricity as a result of an electric current passing through the coil.This effect produces a relationship between the direction of the magnetic flux, which is circulating around the conductor, and the direction of the current flowing through the same conductor.But unlike capacitors that store energy as an electric field, inductors store their energy as a magnetic field.Like a capacitor, inductors store energy.These lines of force start to extend further and further outward.The more current traveling through the wire the greater the amount of flux lines will be present.