Robotics Outline

**Thesis**: Robotics is a technology that combines science and engineering (mechanical ,electronic , computer) and others.

I - Introduction.  
 A- What is robotics?  
 B - The origin of the word " robotics "(Etymology).  
 C - In which way robots are better than humans?  
II - History of robotics.  
III - Robots characteristics.  
 A - Mechanical construction.  
 B - Electrical components.  
 C - Programming code.  
IV - Types of robots.  
 A - Pre-programmed robots.  
 B - Humanoid robots.  
 C - Autonomous robots.  
 D - Tele-operated robots.  
 E - Augmenting robots.  
V – Applications and Uses of robots.  
 A - Military.  
 B - Industry.  
 C - Construction.  
 1 - Traditional robots.  
 2 - Robotic arm.  
 3 - Robotic exoskeleton.  
 D - Medicine.  
 E - Agriculture.  
VI - Components.  
 A - Power supply.  
 B - Actuation.  
 1 - Electric motor.  
 2 - Types of actuators .  
 3 - Muscles.  
 4 - Nanotubes.  
 C - Sensing.  
 1 - Touch.  
 2 - Vision and others.  
 D- Manipulation.  
 E - Locomotion.  
 1 - Rolling robots.  
 2 - Walking applied to robots .  
 3 - Other methods of locomotion.  
 F - Environmental interaction and navigation.  
 D - Human-robot interaction.  
 1 - Speech recognition.  
 2 - Robotic voice.  
 3 - Gestures.  
 4 - Facial expression .  
 5 - Artificial emotions .  
 6 - Personality.  
 7 - Social Intelligence.  
VII- Control.  
VIII - The future of robots and robotics.