

**University of L'Aquila**  
**Department of physical and chemical Sciences**

**Bachelor-level course in**  
**Chemical and Materials Sciences and Technologies**  
**Physics**

**Academic Year 2013-2014**

**Teacher: Dr. L. Lozzi**

**PHYSICS OF SEMICONDUCTORS AND DEVICES**  
**LABORATORY**

**Laboratory experiments:**

- X-ray diffraction (XRD) characterization of semiconductors
- Temperature dependence of the electrical conductivity of metals and semiconductors
- The Hall effect
- Current-voltage characterization of diode
- Diode circuits
- Preparation and characterization of a metal-semiconductor junction
- Preparation of semiconductor powders and thin films by sol-gel technique
- Characterization by XRD and UV-VIS techniques of semiconductor powders and thin films