Tools you will use in this class:

- **DESIGN ARCHITECT IC (DA-IC)**
  
  Used to capture a design as a schematic or VHDL description. We will be using the schematic capture method. Also used to create and edit symbols that represent a subcircuit or subsystem in a hierarchical design. Also used to simulate your design with the ELDO simulation engine and the EZWave waveform viewer.

- **IC STATION**
  
  IC station is a collection of programs used for the physical layout of an integrated circuit. Some of the programs within IC Station are:

  - **Icgraph**
    
    A graphical layout (polygon) editor.

  - **ICrules**
    
    Used to check a layout for compliance with design rules defined by or used by the fabricator.

  - **ICtrace**
    
    Checks the circuit topology of a graphical layout with a schematic representation of the circuit.

  - **Calibre**
    
    Calculates parasitic capacitances and resistances from a layout and adds them to a schematic representation of the circuit (back annotation). This is used by a simulator to evaluate functionality and timing.

**Basic Terminology (alphabetical)**

- **Back annotate**
  
  A method of adding or changing design information that is stored in the form of property values. Back annotation usually occurs in a downstream application, such as Calibre, rather than in a design creation application such as DA-IC.

- **Back annotation object**
  
  A database object that contains the back annotation data.
- **Component**
  An object that contains a set of models used to describe the functional, graphical, timing, and technology aspects of an electronic design.

- **Design viewpoint**
  A mechanism for defining and evaluating the source data of a particular component. A component plus a design viewpoint equals a design.

- **Flat design**
  A design that is entirely evaluated to its primitive level. Flattening refers to the process of looking down through hierarchical components to the bottom (primitive) level of the design and removing the hierarchical information.

- **Hierarchical design**
  A design which contains different levels of abstraction; that is, a design that contains components which in turn contain other components.

- **Instance**
  A representation of a component used within another design. Each time you need a particular component on a sheet, you place a unique instance of it. This instance then references the component data. Because of this, an instance is sometimes referred to as a reference.

- **Net**
  The wire that connects instances together. Nets attach to instance pins and establish connectivity for the design. Net is synonymous with the term node.

- **Pin**
  The point on an instance where nets can connect.

- **Primitive**
  The bottom-level instances in the design hierarchy. This could be the gate level, the transistor level, or any other level in the design hierarchy, beyond which you do not want to evaluate or simulate.

- **Subcircuit**
  A component that is not a primitive. A subcircuit is a hierarchical block in the design hierarchy.