Unit 2. Advanced CMOS device modeling

The outline of this unit is as follows:

- Introduction to mixed-signal microelectronics: overview of microelectronics, design nodes and applications.
- MOSFET devices: structure of a MOSFET device, equations that model their behavior, second-order effects, and small-signal models.
- Features extraction: extraction of parameters by means of simulation.
- Transistor bandwidth: which parameters define the speed of a transistor?
- General tips for analog design.