ARM-based System on Chip (SoC) Design Education Kit

Course Syllabus

**Advanced SoC Design**

1. Introduction to Programmable SoCs
2. ARM and ARM Processors
3. Introduction to ARM DS-5
4. ARMv7 Architecture
5. ARM Cortex-A9 Processors
6. The AMBA Bus Architecture
7. Design and Implementation of an AXI GPIO peripheral and a DDR Memory Controller
8. Design and Implementation of an AXI UART and AXI-Stream Peripheral
9. Design and Implementation of an AXI4-Stream and VGA peripheral
10. Design and Implementation of an AXI-Stream HDMI input peripheral
11. System Debugging
12. Final Application: Image Processing