



PROVIDING STUDENTS
INDUSTRY-RELEVANT KNOWLEDGE
TO SUCCEED IN THE WORKFORCE

AN INDUSTRY-ACADEMIA PARTNERSHIP THAT FOSTERS TECHNOLOGY EXCELLENCE

› The Challenges of Teaching Technology

- Rapid rate of change, within research communities as well as the industry at large
- Breadth of solutions (hardware, software, tools, and ecosystem)
- Training the trainers and access to support resources
- Unique on-campus deployment requirements (atypical configurations and scale)

› Xilinx University Program Benefits

- Professor workshops
- Teaching materials for beginning and advanced courses
- 25- or 50-user license of Xilinx tools for laboratory setup
- Cost-effective hardware and development kits

The Xilinx University Program

As the worldwide leader for field programmable gate array (FPGA) solutions, Xilinx is uniquely positioned to partner with educators and advance programs that contribute to a healthy and growing technology industry. The Xilinx University Program helps educators affordably introduce relevant technology courses, and create environments for relevant and engaging learning experiences.

Resources and Support

Xilinx University Program customers have access to a complete Xilinx technology solution for teaching and research. Xilinx ISE® Design Suite gives students and researchers an integrated software environment that supports comprehensive FPGA design methodologies, as well as a host of development tools. Affordable hardware development kits (tailored for academic environments), reference designs, and other resources are also available to speed adoption within campus environments.

Advancement of Education

Program members can take advantage of Xilinx University Program workshops and hands-on laboratory exercises to keep instructors current, and can smoothly migrate training content into the curriculum for students. With ties to the Xilinx Research Labs, the Xilinx University Program also fosters collaboration among the thought-leaders in the research community. The program actively promotes the advancement of overall engineering curriculum and technology learning experiences.

Xilinx Design Suite for Academia

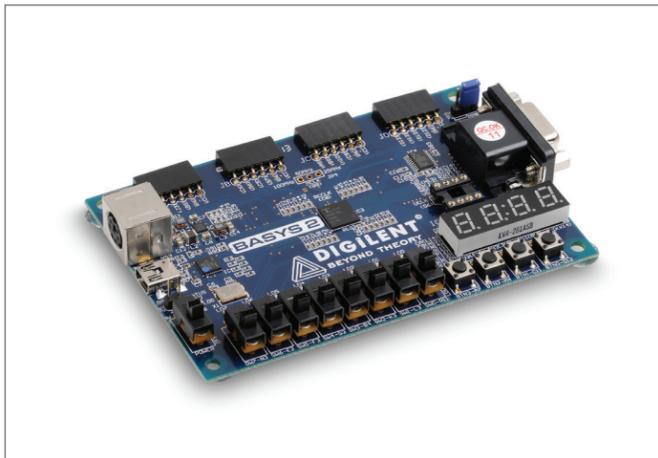
ISE Design Suite software unlocks greater design productivity with break-through technologies for power optimization and cost. Professors, researchers and students gain the fastest time to design completion, and can utilize an intuitive design flow with fourth-generation partial reconfiguration capabilities that lower system costs for a broad range of high-performance applications.

For academic customers, Xilinx offers 25- and 50-seat license bundles of ISE Design Suite: System Edition, ideal for laboratory setup. This suite bundles all of the tools, technologies, and IP from the three tailored ISE Design Suite editions, and facilitates designs relating to logic and connectivity, embedded processors, and digital signal processors (DSPs). The System Edition includes:

- ISE Foundation with ISE Simulator (ISim)
- PlanAhead™ Design and Analysis Tool
- ChipScope™ Pro and the ChipScope Pro Serial I/O Toolkit
- Embedded Development Kit
- Software Development Kit
- System Generator for DSP

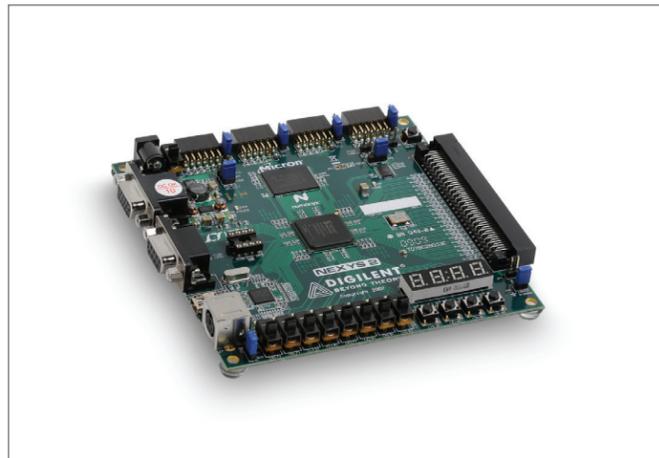
Academic Hardware Development Kits

Xilinx offers hardware development kits tailored for teaching and research. Ranging from introductory boards for undergraduate laboratory exercises to advanced boards for graduate level study, the kits complement classroom learning with hands-on experiences.



Basys2: Digital Design Kit

With an integrated Xilinx Spartan® 3E FPGA, this design platform ideally suits introductory courses for FPGAs and digital circuit design.



Nexys2: Embedded Processor Design Kit

Built around a Xilinx Spartan 3E FPGA, with 16Mbytes of fast SDRAM and 16Mbytes of Flash ROM, the Nexys2 kit ideally suits introductory digital design courses, and studies of embedded processors like the Xilinx Microblaze™ soft core processor. The on-board high-speed USB2 port and integrated I/O devices, data ports, and expansion connectors minimize the need for additional components.



Spartan3E: Entry-Level Spartan® FPGA Kit

This kit provides a powerful, highly advanced, and self-contained development platform for designs targeting the Xilinx Spartan-3E FPGA.



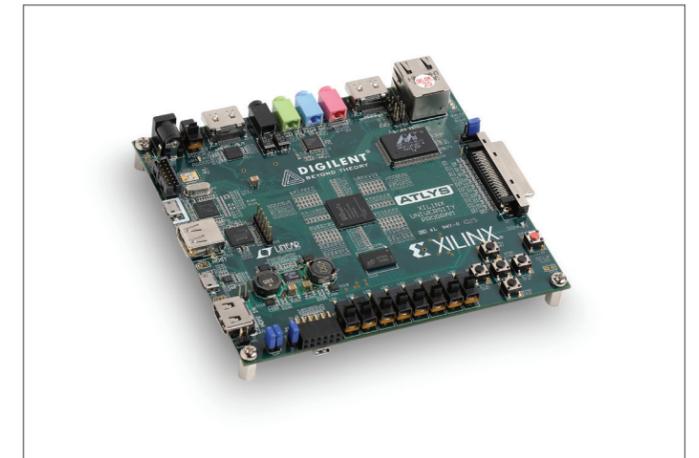
Genesys: Entry-Level Virtex® FPGA Kit

The Genesys Kit includes a Virtex-5 FPGA board, with gigabit Ethernet, high-speed memory connectivity, high-resolution audio and video circuits, and on-board programmability through a standard USB cable. The integrated Virtex-5 XC5VLX50T FPGA suits a broad range of teaching and research projects.



XUPV5: Advanced Virtex Kit

The Advanced Virtex Kit, built around the Xilinx Virtex-5 LX110T, serves as a very high-end and versatile teaching, development, and research platform. Also suited to hosting the OpenSparc T1 open-source microprocessor, this kit brings the throughput of OpenSPARC Chip Multi-Threading to a Xilinx FPGA.



Atlys: Advanced Spartan Kit

The Atlys kit features the Spartan-6 FPGA, an ideal platform for introductory and advanced courses and research, especially those involving video and image processing. Four high-definition multimedia interface (HDMI) ports and the integrated high-performance memory controller block (MCB) support HD video applications. A memory-management unit (MMU)-enabled version of Linux, running on the Microblaze soft core processor, takes advantage of the on-board peripheral interface for a complete embedded processing environment.

Workshops

Highly interactive and hands-on workshops bring professors and researchers up to speed on current design topics. The two-day classes are taught by subject matter experts at locations around the globe. In-class presentations are augmented by lab exercises, with all course materials provided.

COURSE	DESCRIPTION
FPGA Design Flow	Introduction to digital design with Xilinx FPGAs, using Xilinx ISE software
DSP Design Flow	Introduction to FPGA-based DSP design using the Mathworks MATLAB®/Simulink® and Xilinx System Generator for DSP tools
DSP Primer	Advanced Digital Signal Processing (DSP) and Digital Communication design using Xilinx FPGAs
Embedded System Design Flow	FPGA-based embedded systems design using the Xilinx Embedded Development Kit and on-chip hardware/software verification
Embedded Linux on MicroBlaze Processor	Overview of the resources, high-level skills, and teaching techniques to introduce a class covering embedded Linux on a Xilinx MicroBlaze processor
Partial Reconfiguration Flow	Partial reconfiguration design flow in Xilinx FPGAs

Teaching Materials

Each set of workshop teaching materials—slides, laboratory exercises, and solutions to assignments—can be downloaded from the program web site. Posted solutions for student assignments are available only to professors and teaching staff.

To Get Started

To get more information about the Xilinx University Program, please visit: www.xilinx.com/university

Take the NEXT STEP

Visit us online at www.xilinx.com/university

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