# UltraScale Architecture Design Migration Workshop

FPGA-USM-ILT (v1.0)

**Course Specification**

## Course Description

This course introduces new and experienced designers to an efficient methodology for FPGA design migration to the UltraScale™ architecture. This course is targeted towards designers who have used the Vivado® Design Suite and are already familiar with UltraScale architecture features.

In this course you will learn how to best migrate your design and IP to the UltraScale architecture and the best way to use the Vivado Design Suite during design migration. The lab allows for practical hands-on experience of the principles taught.

**What's New for 2022.2**

- All labs have been updated to the latest software versions

**Level** – FPGA 3

**Course Details**

- 1/2 day
  - 2 lectures
  - 2 labs

**Price** – $400 or 4 Xilinx Training Credits

**Course Part Number** – FPGA-USM

**Who Should Attend?** – Anyone who would like to build a design for the UltraScale device family and has been introduced to the UltraScale device features.

**Prerequisites**

- *Designing FPGAs Using the Vivado Design Suite 1* course
- Intermediate VHDL or Verilog knowledge

**Software Tools**

- Vivado Design Suite 2022.2

**Hardware**

- Architecture: UltraScale FPGAs*
- Demo board: None*

* This course focuses on design migration to the UltraScale architecture. Check with your local Authorized Training Provider for specifics or other customizations.

After completing this comprehensive training, you will have the necessary skills to:

- Recognize the limitations of the Vivado Design Suite and its ability to synthesize for the new UltraScale architecture resources
- Describe the recommended IP migration methodology
- Use beneficial Vivado Design Suite utilities and reports to migrate the designs to UltraScale FPGAs

## Course Outline

- **FPGA Design Migration**

  Migrate an existing 7 series design to the UltraScale architecture. {Lecture, Lab}
- **Design Migration Methodology**

  Review the migration methodology recommended by Xilinx for design migrations. {Lecture}
- **10G PCS/PMA and MAC Design Migration**

  Migrate a successfully implemented 7 series design containing the 10G Ethernet MAC and 10G PCS/PMA IP to an UltraScale FPGA. {Lab}

## Register Today

Morgan Advanced Programmable Systems, Inc. (Morgan A.P.S.) delivers public and private courses in locations throughout the central US region; including Iowa, Illinois, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin.

Visit **morgan-aps.com/training**, for full course schedule and training information.

You must have your tuition payment information available when you enroll. We accept credit cards (Visa, MasterCard, or American Express) as well as purchase orders and Xilinx training credits.

## Student Cancellation Policy

- Student cancellations received more than 7 days before the first day of class are entitled to a 100% refund. Refunds will be processed within 14 days.
- Student cancellations received less than 7 days before the first day of class are entitled to a 100% credit toward a future class.
- Student cancellations must be sent here.

## Morgan A.P.S. Course Cancellation Policy

- We regret from time-to-time classes will need to be rescheduled or cancelled.
- In the event of cancellation, live on-line training may be offered as a substitute.
- Morgan A.P.S. may cancel a class up to 7 days before the scheduled start date of the class; all students will be entitled to a 100% refund.
- Under no circumstances is Morgan A.P.S. responsible or liable for travel, lodging or other incidental costs. Please be aware of this cancellation policy when making your arrangements.
- For additional information or to schedule a private class contact us here.

## Online training with real hardware

During the Covid-19 period, some companies do not allow their staff to participate in live in-person training.

- Consequently, Morgan Advanced Programmable Systems, Inc. has set up a training VPN where engineer participants can take classes online using the same computers and devCards used during in-person training.
- Even better, and upon request, you can use these computers after hours on training days to experiment with labs. This is not possible for in-person training.
- Additionally, just like in-person training, the laptops and devCards, tools, OS, and licensing are set up in advance.
- In some ways, live online-training is better than in-person…for example, you can grant the instructor permission to look at your Vivado, PetaLinux terminal, or Vitis for extended periods of time if your lab is not going exactly has planned to a missed step.
- This is often more comfortable than two engineers crowding around a laptop screen.
- Taking remote training also allows you to learn some tips and tricks for working remote. Whether your devCard is in the lab down the hall, or across the world via VPN, you can control your Xilinx based device quickly and efficiently.