



ECE332 - Embedded Systems Lab

Course Administration
Prof. Sandip Kundu

Course Administration: People

- Instructor: Prof. Sandip Kundu
- Grad TAs
 - TA: Sandeep Bal
sbal@umass.edu
 - TA: Anudeep Juluru
ajuluru@umass.edu
- Lab Manager: Keith Shimeld
shimeld@ecs.umass.edu

Course Administration: Communication

- Web page: <https://www.ecs.umass.edu/ece332/>
- Lab hours for TAs etc
 - Refer to home page
- Mailing list
 - Make sure email address in SPIRE is current

Course Info

- Prerequisites: ECE231 – Introduction to Embedded Systems
- The course would use slides mainly vs textbook.
 - Additional Text: Wayne Wolf: "Computers as Components" Morgan Kauffman Publishers, 2016 (or earlier). It covers topics in a broad manner (useful if you need some clarification on key concepts). All exam questions will be related to what is covered in class only.
- The course is taught using the Altera DE1-SOC FPGA boards
 - NIOS II, a 32 bit softcore microprocessor from Altera
 - ARM microprocessors
 - Reconfigurable hardware

Instructor Info: Sandip Kundu

- Office: KEB 309E
- Website: <https://people.umass.edu/kundu/>
- Moodle for lab reports. Piazza for discussions.
- ~300 research publications
- Professor of ECE @ UMass for 18 years (2005-)
 - Recently a Program director at NSF (2017-2019)
 - Previously, Principal Engineer @ Intel Corporation (1997-2005)
 - Prior to that @ IBM T.J. Watson Research Center (1988-1997)
- Fellow of IEEE
- IEEE Computer Society Distinguished Lecturer

Lab Equipment

- You are given all the equipment (DE 1 SOC board, Camera, USB blaster cable, Software CDs, etc.) that are necessary for the lab projects. It is expected that you will return all the equipment at the end of the semester or pay for replacements if lost. You can store the equipment in a lockable drawer in your lab bench. Please note that you are ultimately responsible for the equipment that you have signed out. Smaller components (resistors, wires, etc.) are available in the lab. Please use only what you need and return the components when you are done.
- If you have any problems with the equipment, please contact Keith Shimeld (shimeld@ecs.umass.edu). Lead TA is Chandra.
- TA schedule is available from the class website.

Lab Rules

- All equipment must be returned by the specified due date or final grades will be withheld.
- All equipment must be returned free of all labels, chips, wires, and writing.
- Do not power the DE1-SoC Altera Development Circuit Board on the anti-static bag. It is electrically conductive and will destroy the circuit board.
- Do not leave any part of your Lab assignment projects on the computer.
- Do not move or remove any equipment in the lab, this includes any computer cabling.
- Please report any defective, damaged, or missing lab equipment immediately to your TA or Professor.
- You are responsible for leaving the lab bench in a clean and orderly manner.
Food, beverages, radios and bicycles are not allowed in the lab at any time.
- Lab laser printers are for ECE332 related assignments ONLY & not for any other classes.

Computer Use

- Computers are available on each lab bench. You can also install tools on a Windows (or Linux) computer of your own. If using MAC, you need to use a virtualization software and install Windows first.
- Please make sure you create an account for your group that is password protected.
- The lab computers are not backed up. Please save your work on a dongle or upload to your ECS account.
- Please note that it is considered academic dishonesty if you open any file in a computer that belongs to another group!
- There is a printer available in the lab. Please DO NOT PRINT ALTERA MANUALS. These manuals contain hundreds of pages, most of which you will not need. If you need a hardcopy, please print only the few pages that are necessary for a particular lab.

Security Notice

■ Security Cameras in Operation

- Information obtained with the use of the video cameras will be used exclusively for safety and law enforcement purposes. Information obtained through the use of video cameras will be handled according to the University of Massachusetts Police Department's rules governing the handling of evidence.
Recorded images will be stored for a period not to exceed 180 days and will be erased unless retained as part of a criminal investigation, court procedure, or other bona fide use.

Lab Schedule

- 4 labs in all
 - Lab 4 has an extra credit component
- Schedule posted in the web page
- TA schedule available – see website
- Reports submitted per schedule through Moodle

- Lab demos
 - Demo for Labs 1-4.
 - Sign-up on schedule page activated days before
 - Videos recorded in presence of a TA for Labs 3-4 possible.
 - Submitted to that TA and instructor (ideally a link)
 - Anytime before deadline
- One exam – only material from class asked and about labs