EEL 3701
Practical 2

Practical 2:
- **REMOTE**
- Wed, 17 Apr
- 8:20pm
- Honorlock w/ Zoom

Read the following on our website's Exams page
- *3701 Honorlock Rules & Polices*
- *Instructions extracted from practical*

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- 115 minutes (plus 5 minutes for setup).
- Relevant topics include:
  - Labs 0-5 [6] (including **all** switch & LED circuits); HW 0-11; DAD usage.
- Something relatively simple.
- You will design, debug, and demo for a PI, Dr. Schwartz.
- **NOT** allowed:
  - **Labs, homework, notes, etc.**
  - Other student's info.
  - Another computer, calculator, …
  - Cell phone, until your are done and ready to take the required pictures
  - Documentation of any kind (HW, Labs, Notes, Pinouts).
  - Pre-built circuits; anything not specifically mentioned as allowed.
  - Access to anything else not specified.

1

•1

EEL 3701
Credit **ONLY** Given for What's Demoed/Simulated

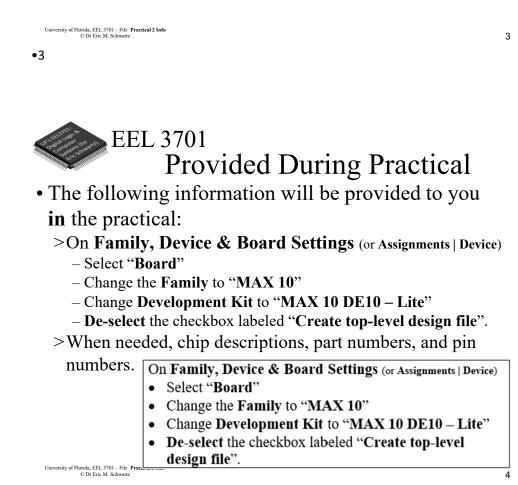- In order to get partial credit:
  - If you cannot demo everything, it is up to you to figure out a way to demo at least part of the requirements.
  - **Points are only awarded for items that are demoed/simulated**, not for designs that are not demoed/simulated.
  - No points are awarded for designs without demo or simulation.

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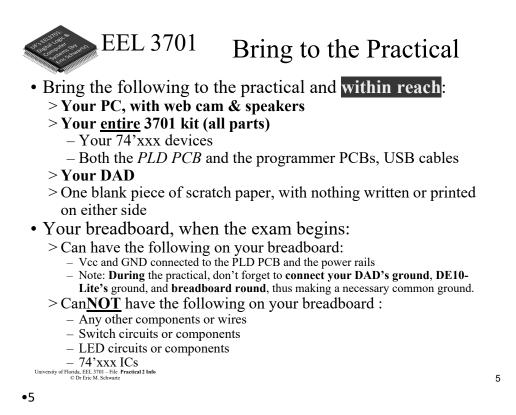© Dr Eric M. Schwartz

2

•2

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Provided Before Practical

- Prior to the practical, a PI (probably **NOT** your lab PI), will send you a Zoom link to use for the practical.

3

•3

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Provided During Practical

- The following information will be provided to you **in** the practical:
  - \>On **Family, Device & Board Settings** (or **Assignments | Device**)
    - Select "**Board**"
    - Change the **Family** to "**MAX 10**"
    - Change **Development Kit** to "**MAX 10 DE10 – Lite**"
    - **De-select** the checkbox labeled "**Create top-level design file**".
  - \>When needed, chip descriptions, part numbers, and pin numbers.

On **Family, Device & Board Settings** (or **Assignments | Device**)
- Select "**Board**"
- Change the **Family** to "**MAX 10**"
- Change **Development Kit** to "**MAX 10 DE10 – Lite**"
- **De-select** the checkbox labeled "**Create top-level design file**".

4

•4

EEL 3701   Bring to the Practical

- Bring the following to the practical and within reach:
  - > **Your PC, with web cam & speakers**
  - > **Your <u>entire</u> 3701 kit (all parts)**
    - – Your 74'xxx devices
    - – Both the *PLD PCB* and the programmer PCBs, USB cables
  - > **Your DAD**
  - > One blank piece of scratch paper, with nothing written or printed on either side
- Your breadboard, when the exam begins:
  - > Can have the following on your breadboard:
    - – Vcc and GND connected to the PLD PCB and the power rails
    - – Note: **During** the practical, don't forget to **connect your DAD's ground**, DE10-Lite's ground, and **breadboard round**, thus making a necessary common ground.
  - > Can**<u>NOT</u>** have the following on your breadboard :
    - – Any other components or wires
    - – Switch circuits or components
    - – LED circuits or components
    - – 74'xxx ICs

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5

•5

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Losing Internet Connection

- If you ever have WiFi or other internet connection problems just before or when your practical begins, use your **phone** to connect to Zoom.
  - > Zoom chat with the relevant PI.
    - – Describe the issue and continue to try to get back in!
    - – The PI will contact Dr. Schwartz.
  - > **As an emergency backup (if your internet goes out), you should learn how to setup your phone as a WiFi hotspot.**

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6

•6

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Honorlock Problems

- If you are having problems with Honorlock, contact Honorlock and keep trying!
- Also send a Zoom chat message to the PI.
  - >The PI will contact Dr. Schwartz.

EEL 3701 Honorlock Room Scan,
if Requested

- The room scan should be thorough and take about one minute. See <u>Honorlock: Proper Room Scan</u> (on the front page of our website).
  - >Be sure to how your desk, computer monitor, walls, floor near your computer, and ceiling.
- In addition to the complete room scan, show each of the following:
  - >Both sides of scratch paper
  - >Your breadboard (containing nothing not allowed)

EEL 3701   Zoom during Practical

- Prior to opening Honorlock, connect to our Zoom link for Practical 2; a PI will send you **your** Zoom link.
  - > Log in to UF's Zoom (with 2-step authentication) https://ufl.zoom.us/. Use your **FULL** name in Zoom.
    - Be sure your speaker is <u>on</u> & video <u>off</u>. (No headphones or ear buds allowed).
  - > In Zoom, be sure to turn off your video before opening Honorlock.
  - > You will start in a single Zoom room, but when you are ready to demo, you will be assigned to private breakout room (with a PI).
- If you have a **question**:
  - > Use Zoom chat to talk to your PI directly.
    - When the PI is in a breakout room, checking off another student, the chat is not available to the PI.
    - Be patient; each PI will have several students.
  - > Do **not** ask for any feedback on a design.
  - > The PI will **not** tell you if your answer is correct or if you have done everything necessary.

EEL 3701   Honorlock ID Scan Extras

- After your Honorlock ID scan, show the following to your camera.
  - > Both sides of your scratch paper.
  - > Your breadboard (containing nothing not allowed).
- You will scan and submit images of this paper with CamScanner or equivalent as specified later in this document.

EEL 3701   Paper Submission at End of Practical

- **DURING** the exam
  - >Use of MS-Word (or similar) and email is **NOT** allowed.
  - >No physical phone connection to your computer is allowed.
  - >No printer/scanner is allowed.
- Be sure to **view** the file on your phone **before** submission to assure that it is **complete and clear**.
- Bring **1** completely blank piece of paper and pens/pencils.

EEL 3701   Paper Submission at End of Practical

- Only after you are completed the rest of the exam (or when 5 minutes are remaining), do the following.
  - >**Archive** your work in **Quartus**.
    - – Upload the Quartus archive to your Canvas/Honorlock quiz.
  - >Use your cell phone and CamScanner (or similar) to create a **SINGLE PDF** file.
    - – After picking up your phone, **no more writing/work** is allowed!
    - – Take a clear picture of your breadboard.
    - – Take a clear picture of each utilized side of your scratch paper.
      - ▪ The scratch paper must include the **switch/LED legends**.
    - – All of this should be in a **SINGLE PDF** file. View the file on your phone before submission to assure that it is complete.
    - – Upload this **SINGLE** file to the *Practical 2 – Phone* Camvas assignment.

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Integrity

- After touching your phone or archiving Quartus, **no more writing/work** is allowed!
- Once you start scanning your paper/breadboard or start archiving you Quartus project, you are **no longer allowed** to make any changes (including the following):
  > Your circuit design on your breadboard.
  > Your Quartus design, simulation, or PLD program.
  > Your scratch paper.
- No more work is allowed, other than the required submission of the two files.

•15

EEL 3701   Honorlock During Practical

- In Honorlock, you must share your computer screen, video, and audio with the proctoring PI at all times. Do **NOT** close Honorlock until after your demo.
- If you are finished before the time is up, let the PI know, and when the PI has time, they will let you demo.
  > Tell the PI you are ready by sending **READY** in the Zoom chat.
  > The PI will instruct you to close Honorlock and you will perform the required demo.
- If you are not finished until the deadline, the assignment will automatically close when time is up. It is therefore **critical** that you upload your files before time is up!
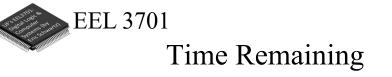 > If you do not, then you will **earn a zero** on the Practical.
- When demoing, you will also share your screen and your camera with Zoom.
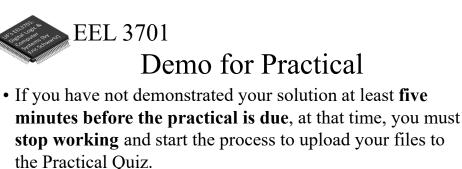
•16

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Time Remaining

- Keep you speakers on so that you can hear any announcement that the PI makes.
- The PI will **VERBALLY** tell you when 5 minutes are remaining (and also a few other times, like 37 minutes and 10 minutes remaining).

EEL 3701   Demo for Practical

- You will have only **ONE** **chance** to demo your work
  - > If you think you are ready, read the question **AGAIN** to be sure that you completed **ALL** parts of the Practical.
  - > Be prepared to run your design, as instructed, with your DAD connected as specified.
  - > Before closing Honorlock, upload the required files to the Practical Quiz.
  - > **After** you have uploaded your files, notify your PI by sending the message **READY** in the Zoom chat. Do **NOT** leave the Zoom meeting.

EEL 3701
Demo for Practical

- If you have not demonstrated your solution at least **five minutes before the practical is due**, at that time, you must **stop working** and start the process to upload your files to the Practical Quiz.
  - > Failure to upload your files before the end of the practical will result in a **grade of zero**.
- After completing your uploads, continue in Honorlock and do **not** leave the Zoom meeting.
  - > You **must** **NOT** leave the Zoom meeting until you demo something (or to tell your PI that you are giving up); if you do give up without a demo, you will earn a zero.
  - > Once you leave Zoom, you will not be able to reenter the Zoom Practical.

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19

•19

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Practical 2 Preview

- Something like this (a VHDL Syntax Example) will be available to you **in** the practical.
- Also available, PLD device family, device & board settings.

```
VHDL Syntax Example
library ieee;
use ieee.std_logic_1164.all;
entity NAND2 is port(
        A,B: in std_logic;
        C: out std_logic);
end NAND2;
architecture behav of NAND2 is
signal COut: std_logic;
begin
        ...
end behav;
```

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20

•20

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Finishing your Practical

- After you have demonstrated your Practical solution, close Zoom.
  - >Your are done!

EEL 3701   Immediately Prior to the Practical

- Below has been shown to prevent problems that have happened to a few students in the past. It wouldn't hurt and could save some aggravation.
  - >Verify that you have your UF ID, passport, or driver's license (for the Honorlock scan).
  - >Clear your cache in Chrome.
    - – Reinstall the Chrome Honorlock Extension.
    - – Close then reopen Chrome.
  - >Verify that you have the files that you need (and are allowed) available from your desktop.
  - >Reboot your computer.
- Be sure that there is enough light for your face to be clear during the exam (for Honorlock). If not, find a lamp or a different area.

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23

•23

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The End!

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24

•24