ENCS3330 – Summer Sem 2022-2023 - Final Project Grading

**Design of Efficient 4x4 Enhanced Pipeline multiplier Based with Various Optimization Techniques**

**Teams of 3 students undertake a large circuit design problem, going from specification to implementation while optimizing for speed, area, and/or power. Group collaboration and engineering design. See attached papers for** **Design of Power Efficient 4x4 Multiplier Based On Various Power Optimizing Techniques. As a reference. The last day for presentation is Sep 7th .**

**Turn it in Report with similarity less than 20% Is required on Turnitin .**

**Best report can be published will get 40/40 in the project instead of the regular mark. This includes detail instruction on how to preduce the design as appendix to the paper and video**

**GRADES:** Grading is based upon the following factors

* Presentation summary as presenting this into a conference and Final project report
* Technical competency in pursuing project goals
* Proficiency in collaboration, as measured by overall project integration and success.
* Implementation- **Presentation Feb 9th lecture time** 
  + Schematic Design \_\_\_\_ / 10
  + lTSpice Simulation one cell and for 4 bits \_\_\_\_ / 5
  + layout \_\_\_\_ / 15
  + Layout based Simulation \_\_\_\_ / 5
  + Overall Area \_\_\_\_ / 5
  + Delay \_\_\_\_ / 5
  + Power \_\_\_\_ / 5
* Final Report -IEEE format \_\_\_\_ / 50
  + **The report due Sep 7th lecture time**   **should have:**
  + **Download template from:** [**https://www.sciencedirect.com/journal/microelectronics-journal**](https://www.sciencedirect.com/journal/microelectronics-journal)
  + Content:
    - * Abstract
      * Introduction \_\_\_\_ / 10
      * Existing system and comparison \_\_\_\_ / 10
      * Simulation and results: elaborate on the simulation and include table comparisons \_\_\_\_ / 10
      * Conclusion\_\_\_\_ / 10
      * References: add all references not less than 10, 5 of them have to be within the last 2 years, and at least one of them from [**https://www.sciencedirect.com/journal/microelectronics-journal**](https://www.sciencedirect.com/journal/microelectronics-journal)\_\_\_\_ /10
      * **need to submit the report on itc after running it through turn-in. % of similarity less than 20%**

**Note: figures and tables formats in the report :**

* + **Need to be nice and clean, readable, and not black and white.**
  + **Need to be your own drawing not cut and past**
  + **Exact copy of figure, table. Circuit, the content will be zero grade**

**Total \_\_\_\_ / 100**

**Some references:**

•[https://www.youtube.com/watch?v=4-l\_PGPog9o](http://www.ijsret.org/pdf/EATHD-15026.pdf)

•[https://www.youtube.com/watch?v=MCFG7XD16Ek](http://www.ijsret.org/pdf/EATHD-15026.pdf)

•<http://www.ijsret.org/pdf/EATHD-15026.pdf>

•https://www.youtube.com/watch?v=rqwkrUcNyH4

•<https://www.youtube.com/watch?v=4-l_PGPog9o>

•https://www.youtube.com/watch?v=WxSR2Yhnqk4&t=30s

•https://www.acsu.buffalo.edu/~phaniram/bootstrap-prestructure22\_files/images/paper\_1.pdf