

# ECE 6323 ASSIGNMENT (*final*)

## Paper on Network

The final paper assignment consists of the topics below. You choose **a subject** within ONE of the topics and write a 3-page paper, single-space, illustration included (but not disproportionately – net space for illustration should be no more than 1 page, but do not lump all figures into one page). NOT included in the 3 pages is the Reference, which is an important part of the paper. **Please do plot plagiarize.**

A- Network core (global or large metropolitan)

- a. Application of ROADM
- b. Wavelength-based switching

B- Network edge: fiber to the home

- a. Architecture (PON and related)
- b. Enabling technologies (for PON)

C- Network emerging applications: optical comm. for cloud computing (big data centers). Be sure it is **relevant to optical communication** and NOT just about cloud services, software, applications etc.

**A topic is not a subject.** Thus, as an example, if you choose B-FTTH and a- which is about PON, you can't write everything about PON. You can choose APON, BPON, GPON or WDM-PON etc. You can even write in-depth an aspect of some PON, such as how video, data are handled in GPON for example. As another example, say if you like A- Network core, you can choose a subject such as how a specific ROADM is used in a network.

The purpose of the paper is to encourage you to read technical materials, gain understanding, and compose an expository piece of writing that demonstrates your knowledge as well as technical communication skills. Use the following criteria for your paper:

- 1- The title of your paper must indicate the topic of choice.
- 2- Write the paper with a focus on technical points that reflect what you learn in this class - write like an engineer, not as a lay person without technical background understanding of optical communications.
- 3- **MUST HAVE COMPLETE REFERENCES** where you get the information. Do not quote other works by using a quotation mark “, followed by 3 pages, and then a final quotation mark “.
- 4- Please be careful in using Wiki as sources. You must be responsible for a source of information. If it is wrong, outdated, or inadequate, it will be your responsibility.

The paper should include:

- Introduction or over all description of the topic (if someone doesn't have any idea, how would you introduce the concept to that person)
- Technical details: how it works (if it is a device or module), what are performance criteria or merits, and how it is used in optical communication. If it is about network and system, describes

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the architecture, how to achieve the intended design. (You may have several sub-sections within the main body.)

- Current key issues: what are the current issues with the technology or the objects of your topic, what is the future?

- Summary and conclusion.

- Make sure the length of each section is appropriate, e. g. do not write 2.5 pages of introduction and 0.5 page for all the rest.