

Activity description (3 sessions)

Topics

The aim of the 3 next sessions is to explore 3 research topics related to future trends in optical networks. These topics are:

- 1- Code Division Multiple Access applied to optical systems (Optical CDMA systems and networks)
- 2- Space Division Multiplexing (SDM) in optical network
- 3- Energy consumption strategies for optical network

How these learning sessions will work?

- Each group will get to work on one of the topics mentioned above

Group 1 – Topic 1

Group 2 – Topic 2

Group 3 – Topic 3

- Each group will follow the roadmap given in this document.
- During the third session, each group will have to make a "small lecture" to explain to the other students the topic that they worked on.
- For this "small lecture", you need to:
 - Define the topic and explain how it works
 - Explain what are the advantages / drawbacks / limits of the topic that you explored
 - Give an application example
 - Answer the questions that will be asked.

You may use your laptop to do your lecture.

First learning session : Feb 10th, 2021

First Phase: Group activity

<u>Timing</u>	<u>Tasks</u>
5 mins	Organize the work group
10 mins	Identify and clarify the problem
40 mins	Establish the different strategies to solve the problem: <ul style="list-style-type: none">- List of adapted questions- List of the things that members of the group know and that would help to solve the problem- List of the aims to reach
20 mins	Specify what each of you need to know or to learn to help solve the problem
15 mins	Establish a work strategy : (Do not divide the works between the group members) <ul style="list-style-type: none">- What are the information that you need to gather- List the tasks that you need to realize.

Second Phase: Individual activity

Study the documents that you have and look for other sources

Second learning session: Feb 17th, 2021

Third phase: Individual activity

Work individually to do your own research answer the questions that were raised during your first session.

Fourth phase: Group activity

<u>Timing</u>	<u>Tasks</u>
5 mins	Organize the work group
1h25 mins	Knowledge validation <ul style="list-style-type: none">- Share what everyone has learned- Analyze the answers to each asked question- Suggest a common solution to solve the global problem- Start to prepare your small lecture

**After this session you'll have to send me a document with the main Q&A that you have risen.
DEADLINE Feb 22th, 2021 at noon**

Third learning session: Feb 24th, 2021

Fifth phase: Group activity

<u>Timing</u>	<u>Tasks</u>
5 mins	Organize the work group
55 mins	<ul style="list-style-type: none">- Gather all the information related to your topic- Rehearse your lecture- Prepare the questions that your friends may ask you

Sixth phase: Presentation and discussion

<u>Timing</u>	<u>Tasks</u>
3 x 30 mins	Lecture for each topic. Keep in mind that you may manage Q&A during this time period
30 mins	Discussion with the teachers