

Course Description

Subject: **Advanced Graph Theory for M2-BIO (IDO)**

1. Brief Presentation

This course is dedicated to M2-BIO students, Computer science field. It allows to student to deepen knowledge related to graphs, as well as their extensions, notably hypergraphs and matroids.

2. Course Objectives

1. Recall key concepts related to graph theory seen in 2y Licence LMD.
2. Mastery new methods to represent graphs.
3. Discover new algorithms for coloring problem.
4. Mastery the basic concepts in coupling and assignement problem.
5. Discover some extensions of graph theory notably hypergraphs and matroids

3. Weekly Program

- 01 course/week
 - 01 Tutorial)/week.
 - 01 Pratical work/week
- In Face-to-face/Online (someteimes)

4. Teaching methodology

- Headlines Presentation (Course Collection in PDF).
- Take Notes (by students).
- Complete the course with series of exercises (supervised work/tutorials).

5. Evaluation method:

- Unit 1: A half-yearly assessment (50%, mark/20)
- Unit 2: Tutorial mark = (Attendance-Tuto + Participation + Attendance-Course) (mark/20)
- Unit 3: Workshop mark = (Attendance-Workshop + Participation) (mark/20)
- Overall Subject Mark (Avg) = $(\text{Unit 1} + (\text{Unit 2} + \text{Unit 3})/2)/2$

6. Rules of discipline:

- Course attending
- Tutorial attending
- Preparation of Tutorial's series
- My total availability so that you can grasp the subject content (through questions)