

Structure of the course — C5.4 Networks

The course corresponds to 16 hours of lectures, over 8 weeks. All the video-lectures have been recorded in advance and are available online. Except for the first and last weeks, where we also provide an introduction and a conclusion to the course, every week focuses on one section from the lecture notes. To improve the organisation of the material and to adapt it to an online format, the lectures of each week are organised into short videos. The list of videos and their associated sections follows:

Week 1: I. Motivation II. Reading List III. Mathematical toolbox. [Week1_1](#), [Week1_2](#), [Week1_3](#), [Week1_4](#)

Week 2: IV. Basic structural properties of networks. [Week2_1](#), [Week2_2](#), [Week2_3](#), [Week2_4](#), [Week2_5](#)

Week 3: V. Models of networks. [Week3_1](#), [Week3_2](#), [Week3_3](#)

Week 4: VI. Community detection. [Week4_1](#), [Week4_2](#)

Week 5: VII. Dynamics, time-scales and Communities. [Week5_1](#), [Week5_2](#), [Week5_3](#)

Week 6: VIII. Dynamics I: Random walks. [Week6_1](#), [Week6_2](#), [Week6_3](#), [Week6_4](#)

Week 7: IX. Random walks to reveal network structure. [Week7_1](#), [Week7_2](#), [Week7_3](#), [Week7_4](#)

Week 8: X. Dynamics II: Epidemic processes. XI. What's next? [Week8_1](#), [Week8_2](#), [Week8_3](#), [Week8_4](#), [Week8_5](#)

This schedule is just a recommendation and you should not hesitate to take advantage of the online format and to watch the video-lectures at your own rhythm, as long as you are ready in time to work on the 4 problem sheets.

You are welcome to write to me at any time at lambiotte@maths.ox.ac.uk. Notice that all contact with me this term (HT 2021) will be exclusively by online communication.