

	Subject of the week	Chapter' paragraphs*
Week 1 : 19/09	Introduction to Bio-Nano-Chip design, and Conductive Solutions	§1.1-1.5, §2.1-2.7, §2.14-15
Week 2 : 26/09	Biological molecules: Proteins and DNA building blocks	§3.5-9, §4.13 and §4.17-18
Week 3 : 03/10	Biological molecules interactions (DNA, Antibodies, Oxidases and Cytochromes)	§4.4-17 and §4.19-23
Week 4 : 10/10	Biosensors Principle by Redox reactions and Faradaic processes	§8.1-8
Week 5 : 17/10	Biosensors Principle with Antibodies and DNA	§6.1-4 and §6.8
Week 6 : 24/10	Nanotechnology for molecular assembly on chip' surfaces (absorption models)	§5.1
Week 7 : 31/10	Nanotechnology for checking molecular assembly on chip' surfaces (SPR+ AFM)	§5.2
Week 8 : 07/11	Nanotechnology to prevent electron transfer	§6.3-7
Week 9 : 14/11	Nanotechnology to enhance electron transfer in redox reactions	§8.4-8, and 8.3 and 8.9
Week 10 : 21/11	Chip design for electrochemical sensing: basic configurations and equivalent circuits	§9.1-9.2
Week 11 : 28/11	Amperometric biosensing in constant-bias (Current-to-Voltage & FTCC Methods)	§9.1.2 and 9.3-5
Week 12 : 05/12	Amperometric biosensing in voltage-scan (VDCM & DDSM Methods)	§10.3-5
Week 13 : 12/12	Label-free capacitance detection (CBCM & FTCM Methods)	§7.2-6
Week 14 : 19/12	Review for final exam	

* textbook : Sandro Carrara, Bio/CMOS interfaces and Co-Design, Springer publisher, New York, 2013