

01- Accelerators		02 Fundamentals of accelerator technology		05 Medical Applications of accelerators	
		Organizer: Anders		Organizer: Lars/Søren	
11 Introduction and basic accelerator science		21 The RF System of Accelerators - Anders		51 Introduction to the course and radiotherapy	
11L1 Introduction to light		21L1 Introduction		51L1 Introduction to the course	
11L2 Introduction to synchrotron accelerators		21L2 RF-cavities		51L2 What is radiotherapy?	
11L3 The evolution of accelerators		21L3 Waveguides		51L3 Introduction to the electron linac for radiotherapy	
		21L4 RF-Amplifiers			
12 Photon light sources		21L5 More about cavities		52 Electron linacs for radiotherapy	
12L1 Introduction				52L1 The multi-energy electron linac structure	
12L2 Bending Magnets		22 Beam Diagnostics - Maja		52L2 Treatment head design	
12L3 Free Electron Lasers		22L1 An overview			
		22L2 Beam Intensity and Position		53 Proton therapy I	
13 Neutron sources		22L3 Transverse Beam Profile		53L1 Rationale of proton therapy	
13L1 Introduction and neutron science		22L4 Longitudinal Beam Profile		53L2 Accelerators for proton therapy	
13L2 ESS		22L5 Beam loss		53L3 Treatment delivery of proton therapy	
14 Colliders		23 Basics of Vacuum techniques - Pauli		54 Proton therapy II and production of medical radionuclides	
Introduction		23L1 An overview and motivation		54L1 Heavy ion therapy	
The LHC and its experiments		23L2 Introduction to theory		54L2 Challenges in proton therapy and heavy ion therapy	
Linear Colliders		23L3 Vacuum equipment		54L3 Introduction to medical radionuclides	
Future circular colliders		23L4 Other vacuum components		54L4 Production of medical radionuclides	
15 Pushing the Frontiers		24 Magnet Technology for Accelerators - Franz (Danfysik)/Søren			
Introduction		24L1 Introduction, basic iron magnet concepts, types, design and measurements			
Plasma wakefield accelerators		24L2 Superconducting magnets, permanent magnets, technology, and future developments			
Laser wakefield accelerators and laser technology		24L3 Examples: Compact girder concept for MAX IV (and others examples?)			
Summary and outlook towards the future					