

Course organisation: Lecture content

1	24.10.23	Introduction	
2	7.11.23	VL1	Basic Anatomy of the Electron Microscope; Electron Guns; EM Lenses; Detectors; Visit to the microscope @ 9am
3	14.11.23	VL2	Electron Column; Sample Chamber; Energy Filters; Vacuum System; Safety
4	21.11.23	VL3	Image Formation- Amplitude and Phase Contrast; Wave Propagation and Phase Shifts
5	28.11.23	VL4	Contrast Transfer Function; Defocus and its Effects
6	5.12.23	VL5	Envelopes and CTF Correction
7	12.12.23	VL6	Fundamental Challenges in Biological TEM- Sample Preparation; Room Temperature Methods and Methods Involving Freezing; Grids
8	19.12.23	VL7	3D Reconstruction and Dose Limitations
9	9.1.24	VL8	Tomography; Identifying Objects of Interest
10	16.1.24	VL9	Tomography- Data Collection and 3D Reconstruction; Limitations
11	23.1.24	VL10	Single Particle Analysis; SPA Sample Preparation and Data Collection
12	30.1.24	VL11	SPA Reconstruction; Basic Workflow; Interpretations and Limitations
13	6.02.24	VL12	2D Crystallography, Data Collection and Reconstruction