

Name of the course	The electron microscopy and related characterisation techniques
Number of instruction hours	45
Outline of course/module content	Scanning electron microscopy - theory and examples (SEM, SE, BSE, EDS), Transmission electron microscopy - theory and examples (TEM, HRTEM, EELS, HAADF), Related techniques (Atomic force microscopy, Optical microscopy) - theory and examples, Technology , construction and development of scanning electron microscopy devices, Technology, construction and development of transmission electron microscopy devices, Technology, construction and development of related technique devices, Preparation and characterization of typical materials (ceramics, metal, plastics) for scanning electron microscopy, Preparation and characterization of advanced materials (nanoparticles, nanostructured materials) for scanning electron microscopy, Preparation and characterization of materials for analysis with related techniques
Description of instruction methods	Lectures, consulting, seminars, laboratory practice
Description of course/module requirements	Oral exam, seminar paper