

Lecture number, date	Lecturer: lecture content
Lecture 1, 26.02	CS and ST: Introduction to the course. Scalars and pseudo-scalars. Complex vectors and inhomogeneous plane waves
Lecture 2, 4.03	ST: Dyadics. Definition, coordinate representation (matrix form), symmetric and antisymmetric, 2D, uniaxial, Hermitian dyadics
Lecture 3, 11.03	CS: Dyadics. Rotation and reflection dyadics, eigenvalue problem, inverse dyadics
Lecture 4, 18.03	CS: Material relations, causality, frequency and spatial dispersion
Lecture 5, 25.03	XW: Boundary conditions – Generalized sheet transition conditions and boundary conditions at discontinuities in time. Reflection from impedance boundaries
28.03 - 03.04	Easter break
Lecture 6, 8.04	CS: Uniqueness, energy conservation, lossless, lossy and gainy media and boundaries
Lecture 7, 15.04	ST: Reversal transformations (time, space reversals, parity-time symmetry)
Lecture 8, 22.04	ST: Reciprocity and nonreciprocity in electrodynamics
Lecture 9, 29.04	ST: Electromagnetic duality, duality in nonreciprocal media, Babinet principle and implications
Lecture 10, 6.05	MSM: Moving charge radiation and Green's function
Lecture 11, 13.05	ST: Huygens' principle, including the physical optics integrals
Lecture 12, 20.05	MSM and MM: Time-varying electromagnetic structures
Consultation, 27.05	Your questions and teachers' answers (preparation for the exam)
3.06	Course examination

CS – Constantin Simovski, ST – Sergei Tretyakov, XW – Xuchen Wang, MSM – Mohammad Sajjad Mirmoosa, MM – Mohamed Mostafa.

Weeks 09-11,13,16-22 Mon 12:15 - 14:00 Maarintie 8 / AS4

09-12,14-18,21 Thu 12:15 - 14:00 Tietotekniikka / T3

12,15 Mon 12:15 - 14:00 Maarintie 8 / TU5