

EEE 345 : Engineering Electrodynamics

year: 2016

lecturer: Dr. Thomas WALTHER

office: Mappin Building, first floor, E150d

lecture times: Thursdays, 15-16:00, LT #11
Fridays, 12-13:00, LT #12

Lecturer will be available to answer questions on an individual basis, either book an appointment by email t.walther@sheffield.ac.uk (any time) or, without appointment, Mondays, 10-12:00, E150d (office)

Lecture dates:

February: 11, 12, 18, 19, 25, 26

March: ~~2, 4~~, 10, 11, 17, 18

April: 14, 15, 21, 22, 28, 29

May: 5, 6, 12, 13, ~~19, 20~~

exam: 2 hrs, answer 3 out of 4 questions

content: Maxwell's equations and applications to

1. electromagnetic waves
2. transmission lines
3. electrostatic devices / dielectric materials
4. optics

lecture topics:

electrostatics: pn-junctions

magnetostatics:

cables,
eddy currents

Maxwell's equations

electrodynamics of waves

standing waves:
transmission lines,
coaxial cables

propagating waves:
planar and spherical waves,
dipole fields & antennas,
dispersion,
optical laws