

# Final Review Topics

## Electrostatics

Total charge

Gauss's Law

Voltage

Not tested: Resistance, capacitance

## Magnetostatics

Ampere's law

Not tested: inductance

## Time varying fields

Time varying magnetic field

Moving loop

Not tested: displacement current

## Plane Wave Propagation

Time harmonic fields

Time and phasor domains

Plane wave equations

Propagation direction

Calculating H from E and visa versa

$k, f, \lambda$

Propagation in loss media

Polarization

Not tested: AC resistance

## Reflection, Transmission

Snell's law

Field reflection and transmission coefficients

Power reflection and transmission coefficients

Calculating fields and power

Antennas

Total radiated power

Total power

Beam pattern

Directivity

Gain

Radiation resistance

Friis Transmission Formula

Antenna array pattern