

Electric fields literature

As the course literature, the following materials from Physnet are suggested:

<http://www.physnet.org>.

Lecture HDT.1: Electric field

1a) Point charge: field and force

http://www.physnet.org/modules/pdf_modules/m115.pdf

1b) Coulomb's law

http://www.physnet.org/modules/pdf_modules/m114.pdf

1c) Dipole

http://www.physnet.org/modules/pdf_modules/m120.pdf

1d) Gauss law: sphere:

http://www.physnet.org/modules/pdf_modules/m132.pdf

1e) Gauss law: cylinder:

http://www.physnet.org/modules/pdf_modules/m133.pdf

Additional material to HDT.1:

Electric force on charged particle

http://www.physnet.org/modules/pdf_modules/m411.pdf

E-field:

http://www.physnet.org/modules/pdf_modules/m419.pdf

Lecture HDT.2: Potential

2a) Potential

http://www.physnet.org/modules/pdf_modules/m116.pdf

2b) Energy in E-field

http://www.physnet.org/modules/pdf_modules/m117.pdf

2c) El. properties of materials

http://www.physnet.org/modules/pdf_modules/m421.pdf

2d) Capacitance

http://www.physnet.org/modules/pdf_modules/m422.pdf

2e) Current

http://www.physnet.org/modules/pdf_modules/m423.pdf

2f) Resistivity

http://www.physnet.org/modules/pdf_modules/m424.pdf

additional material to HDT.2:

Electric potential

http://www.physnet.org/modules/pdf_modules/m420.pdf

Capacitance & capacitors

http://www.physnet.org/modules/pdf_modules/m135.pdf

Lecture HDT.3: Magnetic field

3a) Magnetic field

http://www.physnet.org/modules/pdf_modules/m426.pdf

3b) Magnets

http://www.physnet.org/modules/pdf_modules/m366.pdf

3c) Ampere's law

http://www.physnet.org/modules/pdf_modules/m138.pdf

Lecture HDT.4: Induction & EM waves

4a) Faraday's law

http://www.physnet.org/modules/pdf_modules/m142.pdf

4b) Self-inductance and inductors

http://www.physnet.org/modules/pdf_modules/m144.pdf

4c) EM waves & Maxwell

http://www.physnet.org/modules/pdf_modules/m429.pdf

4d) Waves: basic properties

http://www.physnet.org/modules/pdf_modules/m430.pdf

4e) Wave equation

http://www.physnet.org/modules/pdf_modules/m201.pdf