

CLASS READINGS FOR 2017FA

Week	Class: date	Sections of Griffiths for pre-class reading	Contents of the assigned readings and the in-class quiz (~weekly)
0	Thurs Sep 7	Review of 1002H	Review based on <i>Introductory Physics II</i>
1	Tues Sep 12	1.1; 1.2.1 – 1.2.3	Vector algebra; $\vec{\nabla}f$
	Thurs Sep 14	1.2.4	$\vec{\nabla}\cdot\vec{v}$
2	Tues Sep 19	1.2.5 – 1.2.7	$\vec{\nabla}\times\vec{v}$; Product rules; Second derivatives
	Thurs Sep 21	1.3.1	$\int\vec{v}\cdot d\vec{\ell}$
3	Tues Sep 26	1.3.1 - 1.3.5	$\int\vec{v}\cdot d\vec{a}$; $\int f d\tau$; Divergence theorem; Stokes' theorem
	Thurs Sept 28	1.4	Curvilinear coordinates
4	Tues Oct 3	1.5; 2.1	Dirac delta function; The electric field
	Thurs Oct 5	2.1	More examples of finding the electric field
5	Tues Oct 10	2.2	Gauss' law for \vec{E} ; Curl of \vec{E}
	Thurs Oct 12	2.3	Electric potential
6	Tues Oct 17	2.4 – 2.5.3	Work and energy in electrostatics; Conductors
	Thurs Oct 19	Formula sheet: eq 1.1 – eq 2.12	Quantitative review of electrostatics so far
—	Oct 24–28	Reading Week	Reading Week
7	Tues Oct 31	2.5.4	Capacitors
	Thurs Nov 2	3.1	Solving Laplace's equation using the relaxation method
8	Tues Nov 7	3.2	The method of images
	Thurs Nov 9	Review	Review of sections 1.1 – 3.2
9	Tues Nov 14	Term Test I	Term Test I (1.1 – 3.2)
	Thurs Nov 16	Go over term test I	Go over term test I
10	Tues Nov 21	3.3.2	Separation of variables in spherical coordinates
	Thurs Nov 23	3.4.1	Finding the approximate potential at a large distance from a charged object
11	Tues Nov 28	3.4.2 – 3.4.4	Monopole and dipole terms
	Thurs Nov 30	4.1	The polarization field within an insulator
12	Tues Dec 5	4.2	The electric field due to a polarized object

CLASS READINGS FOR 2018WI

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1	Tues Jan 9	Review	Past exam questions to review sections 1.1 – 4.2
	Thurs Jan 11	4.3	The electric displacement field $\vec{D}(\vec{r})$
2	Tues Jan 16	4.4	Linear dielectrics
	Thurs Jan 18	5.1 – 5.2	The Lorentz force law; The Biot-Savart Law
3	Tues Jan 23	5.3 – 5.4	The divergence and curl of $\vec{B}(\vec{r})$; Ampère's law; The vector potential, $\vec{A}(\vec{r})$
	Thurs Jan 25	6.1	The magnetization vector $\vec{M}(\vec{r})$
4	Tues Jan 30	6.2	The magnetic field due to a magnetized object;
	Thurs Feb 1	Formula sheet: Eq 1.1 – eq 6.5	Quantitative review of electricity and magnetism so far
5	Tues Feb 6	Term Test 2	Term Test 2 (sections 1.1 – 6.2)
	Thurs Feb 8	Go over term test 2	Go over term test 2
6	Tues Feb 13	6.3	The auxiliary field $\vec{H}(\vec{r})$
	Thurs Feb 15	6.4	Linear and nonlinear media
—	Feb 19–23	Reading Week	Reading Week
7	Tues Feb 27	7.1	Electromotive force
	Thurs Mar 1	7.2.1 – 7.2.2	Electromagnetic induction
8	Tues Mar 6	7.2.3 – 7.2.4	Inductance; Energy in magnetic fields
	Thurs Mar 8	7.3	Maxwell's equations
9	Tues Mar 13	Class moved to lab slot, Fri Mar 9	Group presentations, Information literacy module
	Thurs Mar 15	9.1.1 – 9.1.2	The wave equation; sinusoidal waves
10	Tues Mar 20	9.1.3	Polarization
	Thurs Mar 22	9.2.1 – 9.2.2	The wave equation in vacuum; monochromatic plane waves
11	Tues Mar 27	8.1.2 & 9.2.3	Poynting vector; energy and momentum in electromagnetic waves
	Thurs Mar 29	Review	Practice questions (chapters 1 – 4)
12	Tues Apr 3	Review	Practice questions (chapters 5 & 6)
	Thurs Apr 5	Review	Practice questions (chapters 7 & 9)