Physics 513, Autumn 2020, University of Washington
Graduate Classical Electrodynamics: Quarter 1 of 3

Text: John David Jackson, "Classical Electrodynamics," 3th ed.

(syllabus ver. 30Sep2020 12:00)

week	date	lecture topic	readings*
1	1-Oct	Introduction	Intro I.1-6
2	6-Oct	Electrostatics review 1	1.1-7
	8-Oct	Electrostatics review 2	1.8-11
3	13-Oct	Method of images 1 (an application of the uniqueness of the potential)	2.1-4
	15-Oct	Method of images 2 (and the corresponding Green's function)	2.5-7
4	20-Oct	Separation of variables 1 (Legendre functions & Spherical harmonics)	2.8-9
	22-Oct	Separation of variables 2	2.10-11
5	27-Oct	Spherical boundaries 1 (Legendre polynomials, spherical harmonics and related functions)	3.1-4
	29-Oct	Spherical boundaries 2	3.5-6
6	3-Nov	Cylindrical boundaries 1 (Bessel and related functions)	3.7-8
	5-Nov	Spherical boundaries 3 (and the corresponding Green's function)	3.9-10
	6-Nov	**Exam posted 4pm PDT**	
7	9-Nov	**Exam due 4pm PDT**	
	10-Nov	Cylindrical boundaries 2 (and the corresponding Green's function)	3.11-12
	12-Nov	Multipole expansion	4.1-2
8	17-Nov	Dielectric media 1	4.3-5
	19-Nov	Dielectric media 2 (and free and total energy)	4.6-7
9	24-Nov	Magnetostatics review 1	5.1-3
	26-Nov	**Thankgiving holiday (no lecture)**	
10	1-Dec	Magnetostatics review 2 (and the vector potential)	5.4-8
	3-Dec	Boundary-value problems in magnetostatics 1	5.9-10
11	8-Dec	Boundary-value problems in magnetostatics 2	5.11-12
	10-Dec	Energy in the magnetic field, mutual- & self-inductance	5.16-17
	10-Dec	**Exam posted 4pm PDT**	
	11-Dec	**Exam due 4pm PDT**	
		* The pace of the class, and therefore the readings, will likely vary from this syllabus.	
		Also, there will be special topics discussed in lecture.	