

NANO 708 – Spring 2018
Nanomaterials for Photovoltaics
Course Schedule

WEEK	DATE	LECTURE	READING
1	Tu-1/9 Th-1/11	1: PV Basics	JN: Ch. 1, 2; MG: Ch. 1
2	Tu-1/16 Th-1/18	2: Solar Spectrum	MG: Ch. 2
3	Tu-1/23 Th-1/25	3: Semiconductors	JN: Ch. 3
4	Tu-1/30 Th-2/1	4: Transport	
5	Tu-2/6 Th-2/8	5: Recombination	JN: Ch. 4
6	Tu-2/13 Th-2/15	6: Homojunctions	JN: Ch. 5
7	Tu-2/20 Th-2/22	7: Solar-Cell Efficiency	JN: Ch. 6; MG: Ch 3, 4
8	Tu-2/27 Th-3/1	8: Multijunction Solar Cells	JN: Ch. 10; MG: Ch. 5
9	Tu-3/13 Th-3/15	9: Heterojunctions	
10	Tu-3/20 Th-3/22	10: Bulk-Heterojunction Solar Cells	
11	Tu-3/27 Th-3/29	11: Quantum Confinement	
12	Tu-4/3 Th-4/5	12: Hot-Carrier Solar Cells	MG: Ch. 6
13	Tu-4/10 Th-4/12	13: Multi-Exciton Solar Cells	MG: Ch. 7
14	Tu-4/17 Th-4/19	14: Intermediate-Band Solar Cells	MG: Ch. 8
15	Tu-4/24 Th-4/26	15: Optical-Conversion Solar Cells	MG: Ch. 9

Primary (JN): The Physics of Solar Cells, by Jenny Nelson, Imperial College Press, 2003.

Secondary (MG): Third Generation Photovoltaics, by Martin A. Green, Springer, 2006.

Exam 1: Take-home, due F-2/23, 5:00 PM

Exam 2: Take-home, due F-4/13, 5:00 PM

Final: Take-home, due F-5/4, 5:00 PM