

8.701

Introduction to Nuclear
and Particle Physics

Markus Klute - MIT

0. Introduction

0.1 Course Overview



Fall 2020 Calendar

Week	Date	Monday	Tuesday	Wednesday	Thursday	Friday
1	8/31/2020		#0 Meet-and-greet		#1	
2	9/7/2020	Labor Day	#2	PSet #1 posted	#3	
3	9/14/2020		#4		#5	
4	9/21/2020		#6	PSet #2 posted	#7 Survey	
5	9/28/2020		#8		#9	
6	10/5/2020		#10	PSet #3 posted	#11	
7	10/12/2020	Columbus Day			#12	
8	10/19/2020		#13	PSet #4 posted	#14	
9	10/26/2020		Oral Exam		#15 Survey	
10	11/2/2020		Election Day	PSet #5 posted	#16	
11	11/9/2020		#17	Veterans Day	#18	
12	11/16/2020		#19	PSet #6 posted	#20	
13	11/23/2020				Thanksgiving	
14	11/30/2020		#21		#22	
15	12/7/2020		Oral Exam			

Course Schedule (will be tuned)

Week 1: Introduction with remarks on history and special relativity

Week 2: Fermions, interactions and fields

Week 3: Symmetries and bound states

Week 4: Feynman Calculus

Week 5: QED, QCD

Week 6: Weak interaction

Week 7 (short week): Gauge theories and the Standard Model

Course Schedule (will be tuned)

Week 8: Neutrino Physics

Week 9: Basics of nuclear physics

Week 10: Basics of nuclear physics

Week 11 (short week): Experimental methods - accelerators

Week 12: Experimental methods - detectors

Week 13: Thanksgiving week

Week 14: Physics beyond the Standard Model and Cosmology

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