

Physics 30240 Elementary Cosmology Spring 2025
Course Outline Version 3 – February 10, 2025

Date	Book	Topic	Pages
January 14	Thorne	Relativity of Space and Time	60-86
January 16	Thorne	Warped Space-Time	87-120
January 21	Thorne	Black Holes & White Dwarfs	121-163
January 23	Thorne	Implosion	164-208
January 28	Thorne	Final State?	209-257
January 30	Thorne	Golden Age	258-299
February 4	Thorne	The Search	300-356
February 6	Thorne	Gravitational Radiation	357-411
February 11	Thorne	Reality & Hawking Radiation	412-448
February 13	Thorne	Singularities	449-482
February 18	Thorne	Time Machines	483-528
February 20		DVT presentation	
February 25	Wilczek	Reply to Keats	Intro., pp. 1-22
February 27	Wilczek	Uniformity of Structure	23-52
March 4	Wilczek	Transformations & Inevitability	53-96
March 6	Midterm Exam		
March 11	Break		
March 13	Break		
March 18	Wilczek	Quantal Reality	98-134
March 20	Wilczek	Radical Uniformity	137-170
March 25		DVT presentation	
March 27	Wilczek	Transforming Principles	171-206
April 1	Wilczek	Gluons & Asymptotic Freedom	207-228
April 3	Wilczek	Symmetry Lost & Found	231-275
April 8	Wilczek	Macrocosm & Quest	277-341
April 10	Kolata	Scientific Method & Early Astronomy	1-1 2-8
April 15	Kolata	Nebulae & Cosmic distances & Relativity	3-1 5-10
April 17	Kolata	Big Bang & CMB & Dark Matter	6-1 8-4
April 22	Kolata	Standard model & Early big bang	9-1 10-12
April 24	Kolata	Inflation & Dark energy	11-6 12-4
April 29	Kolata	Higher dimensions & String theory & Black holes	13-1 15-10
May 5-9	Final Exam	??:?? am - ??:?? pm TBC	

Important Dates

Date	What
Report Due	February 27
Midterm Exam	March 6
Spring Break	March 8-16
DVT presentations	February 20 and March 25
Final Exam	May 5, 10:30 am - 12:30 pm

Web Page

<https://www3.nd.edu/~losecco/Cosmology/phy30240.html>