

**Physics 10240 Elementary Cosmology Spring 2022
Course Outline**

Date	Book	Topic	Pages
January 11	Thorne	Relativity of Space and Time	60-86
January 13	Thorne	Warped Space-Time	87-120
January 18	Thorne	Black Holes & White Dwarfs	121-163
January 20	Thorne	Implosion	164-208
January 25	Thorne	Final State?	209-257
January 27	Thorne	Golden Age	258-299
February 1	Thorne	The Search	300-356
February 3	Thorne	Gravitational Radiation	357-411
February 8	Thorne	Reality & Hawking Radiation	412-448
February 10	Thorne	Singularities	449-482
February 15	Thorne	Time Machines	483-528
February 17		DVT presentation	
February 22	Wilczek	Reply to Keats	Intro., pp. 1-22
February 24	Wilczek	Uniformity of Structure	23-52
March 1	Wilczek	Transformations & Inevitability	53-96
March 3	Midterm Exam		
March 8	Break		
March 10	Break		
March 15	Wilczek	Quantal Reality	98-134
March 17	Wilczek	Radical Uniformity	137-170
March 22	Wilczek	Transforming Principles	171-206
March 24	Wilczek	Gluons & Asymptotic Freedom	207-228
March 29	Wilczek	Symmetry Lost & Found	231-275
March 31	Wilczek	Macrocosm & Quest	277-341
April 5	Kolata	Scientific Method & Early Astronomy	1-1 2-8
April 7	Kolata	Nebulae & Cosmic distances & Relativity	3-1 5-10
April 12	Kolata	Big Bang & CMB & Dark Matter	6-1 8-4
April 14	Kolata	Standard model & Early big bang	9-1 10-12
April 19	Kolata	Inflation & Dark energy	11-6 12-4
April 21	Kolata	Higher dimensions & String theory & Black holes	13-1 15-10
April 26		DVT presentation	
May ?		Final Exam	??:?? am - ??:?? pm

Important Dates

Date	What
Report Due	February 24
Midterm Exam	March 3
Spring Break	March 5-13
DVT presentations	February 17 and April 26
Final Exam	May ?

Web Page

<https://www3.nd.edu/~losecco/Cosmology/phy10240.html>