

Presentation Schedule:

Date:	Topic:	Readings:
17 Jan.	Introduction–The Place of History in Foundational Studies. Empirical and theoretical preliminaries	
19 Jan.	Planck and black-body radiation.	
24 Jan.	Einstein and the photo-electric effect.	
26 Jan.	The Bohr model of the atom and spectral series.	
31 Jan.	The Bohr-Sommerfeld “old” quantum theory; Einstein on transition probabilities.	
2 Feb.	The Bohr-Kramers-Slater theory.	
7 Feb.	Bose-Einstein statistics.	
9 Feb.	Heisenberg and matrix mechanics.	
14 Feb.	Schrödinger and wave mechanics.	
16 Feb.	De Broglie and the origins of pilot-wave theory.	James Barham
21 Feb.	Complementarity and the indeterminacy principle.	
23 Feb.		
26 Feb.	The Einstein-Podolsky-Rosen argument and Bohr’s reply.	Joe Fremeau
2 Mar.		
7 Mar.	Von Neumann and the axiomatization of quantum mechanics. London and Bauer on measurement theory.	Iulian Toader
9 Mar.	The invention of the “Copenhagen Interpretation.”	
21 Mar.	Relativistic quantum mechanics, second quantization, and the origins of quantum field theory.	Alex Skiles Iulian Toader

23 Mar.	Early QFT continued	
28 Mar.	Ballentine and the statistical ensemble interpretation.	
30 Mar.	Bohm and the revival of hidden variables theories. Gleason, Kochen and Specker, and the no-go theorems.	Joe Fremeau
4 Apr.	Bell's theorem and the Jarrett analysis.	Elise Crull
6 Apr.		
11 Apr.	Everett, Wheeler, DeWitt and the relative state interpretation.	Greg Watson
13 Apr.	Omnès, Zurek, and decoherence.	James Barham
18 Apr.		
20 Apr.	Van Fraassen and the modal interpretation.	Alex Skiles
25 Apr.	Quantum computing, quantum information theory, and quantum cryptography.	Elise Crull
27 Apr.	The quantum information loss paradox.	
2 May		