Week	Date	Topic	Contents	Paper Discussion	Deadline (tentative)		
1	01/08	Introduction	Introduction & Logistics				
1	01/10	Basics in computational biology	Molecular biology				
2	01/15		No class (MLK day)				
2	01/17		Sequence alignment I				
3	01/22		Sequence alignment II				
3	01/24	ML foundations	No Class (PyTorch video + exercise)				
4	01/29		Regression & Gradient descent				
4	01/31		Classification & Toolbox for Applied ML				
5	02/05		Neural networks				
5	02/07		Deep learning				
6	02/12	Learning from sequence data	Deep learning for Protein/DNA sequences				
6	02/14		Large language models (LLMs)		HW1 Due 02/16		
7	02/19	Learning from high-dim data	Clustering and dimensionality reduction				
7	02/21		Generative AI				
8	02/26	Learning from network data	Network basics & ML for graphs				
8	02/28		Graph neural network				
9	03/04	Learning from structure data	Protein structure prediction & protein design				
9	03/06	Advanced topics: ML for sequence data	Protein language models for prediction and generation	Student presentation	HW2 Due 03/06		
10	03/11		Disease variant prediction	Student presentation			
10	03/13		Protein function prediction	Student presentation			
11	03/18		No class (Spring break)				
11	03/20		No class (Spring break)				
12	03/25	Advanced topics: ML for structure data	Deep learning for structure prediction	Student presentation			
12	03/27		GNN for 3D structures	Student presentation	Project proposal due 03/29		
13	04/01		Deep learning for structure generation	Student presentation			
13	04/03	Advanced topics: ML for network data	Embeddings (representation learning)	Student presentation	HW3 Due 04/05	Quiz 1: Apr 2-3	
14	04/08		ML for graph bio data	Student presentation			
14	04/10		ML for protein design	Student presentation	Kaggle due 04/12	Quiz 2: Apr 9-10	
15	04/15	Advanced topics: ML for high-D data	Dim reduction in bio data	Student presentation			
15	04/17		ML for system bio	Student presentation		Quiz 3: Apr 16-17	
16	04/22		ML-guided biological discovery	Student presentation			
					Project report (due on 04/29)		
Disclaimer: The instructor reserves the right to modify the planned schedule and grading policy as needed during the course.							