

EE641 Model-Based Image and Signal Processing

Fall 2025 – Lecture, Homework, and Laboratory Schedule

Session # (Day)	Readings Due	Homework Due	Laboratory Due	Topic
1. (Aug. 25)	Chapter 1			Introduction
2. (Aug. 27)	Chapter 2.1			Probability
3. (Aug. 29)	Chapter 2.2	Homework #1		Probability
*****Labor Day*****				
4. (Sept. 3)	Chapter 2.3			Probability
5. (Sept. 5)	Chapter 2.4	Homework #2		Probability
6. (Sept. 8)	Chapter 3.1-3.2			Causal Gaussian Models
8. (Sept. 10)	Chapter 3.3			Causal Gaussian Models
8. (Sept. 12)	Chapter 3.4	Homework #3		Causal Gaussian Models
9. (Sept. 15)	Chapter 4.1-4.2			Non-Causal Gaussian Models
10. (Sept. 17)	Chapter 4.3-4.4			Non-Causal Gaussian Models
11. (Sept. 19)	Chapter 4.5-4.6	Homework #4		Non-Causal Gaussian Models
12. (Sept. 22)	Chapter 5.1			MAP with Gaussian Priors
13. (Sept. 24)	Chapter 5.2			MAP with Gaussian Priors
14. (Sept. 26)	Chapter 5.3	Homework #5		MAP with Gaussian Priors
15. (Sept. 29)	Chapter 5.4-5.5			MAP with Gaussian Priors
16. (Oct. 1)	Chapter 6.1			Non-Gaussian MRFs
17. (Oct. 3)	Chapter 6.2	MAP Image Restoration Parts 1-2		Non-Gaussian MRFs
18. (Oct. 6)	Chapter 6.3-6.4			Non-Gaussian MRFs
19. (Oct. 8)	Chapter 7.1-7.2			Non-Gaussian MAP
20. (Oct. 10)	Chapter 7.3	Homework #6		Non-Gaussian MAP
*****Fall Break*****				
21. (Oct. 15)	Chapter 8.1-8.2			Majorization
22. (Oct. 17)	Chapter 8.3	MAP Image Restoration Parts 3		Majorization
23. (Oct. 20)	Chapter 8.4			Majorization
24. (Oct. 22)	Chapter 9.1-9.2			Constrained Optimization
25. (Oct. 24)	Chapter 9.3	Homework #7		Constrained Optimization
26. (Oct. 27)	Chapter 9.4			Constrained Optimization
27. (Oct. 29)	Chapter 9.5			Constrained Optimization
28. (Oct. 31)	Chapter 10.1-10.2	Homework #8		Plug-and-Play
29. (Nov. 3)	Chapter 10.3			Plug-and-Play
30. (Nov. 5)	Chapter 10.4			Plug-and-Play
31. (Nov. 7)				Exam
32. (Nov. 10)	Chapter 12.1-12.2			EM Algorithm
33. (Nov. 12)	Chapter 12.3-12.4			EM Algorithm
34. (Nov. 14)	Chapter 12.5-12.6	Homework #9		EM Algorithm
35. (Nov. 17)	Chapter 12.7			EM Algorithm
36. (Nov. 19)	Chapter 13.1			Markov Chains and HMMs
37. (Nov. 21)	Chapter 13.2	The EM Algorithm		Markov Chains and HMMs
38. (Nov. 24)	Chapter 13.4			Markov Chains and HMMs
*****Thanksgiving Break*****				
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39. (Dec. 1)	Chapter 13.5			Markov Chains and HMMs
40. (Dec. 3)	Chapter 14.1-14.2			General MRFs
41. (Dec. 5)	Chapter 14.3-14.4	Homework #10		General MRFs
42. (Dec. 8)	Chapter 15.1-15.2			Stochastic Simulation
43. (Dec. 10)	Chapter 15.3-15.4			Stochastic Simulation
44. (Dec. 12)	Chapter 16.1	Homework #11		MAP Segmentation