

Week of Class	Date	Tentative Topic: APPM 4380/5380	Assignment
Week 1	8/28/17	Introduction	Project 1: Top 10 Algorithms
	8/30/17	Tomographic Image Reconstruction Intro	Due Monday 9/11/17
	9/1/17	Computational Tomography (CT) Intro	<b>FINAL PROJECT</b>
Week 2	9/4/17	<b>Holiday</b>	<b>Due Monday 12/4/17</b>
	9/6/17	Tomography Test Problem (MATLAB code)	<b>Outline Due Monday 11/13/17</b>
	9/8/17	In-class Activity: Peer-review	
Week 3	9/11/17	<b>Presentation 1</b>	Project 1 Reflection
	9/13/17	<b>Presentation 1</b>	Due Monday 9/18/17
	9/15/17	<b>Presentation 1</b>	
Week 4	9/18/17	Methods for CT: Solving Linear Systems; SVD	Project 2: Topics in Tomography
	9/20/17	Methods for CT: Least Squares Solution	Due Monday 10/2/17
	9/22/17	General Setup for LSS CT	
Week 5	9/25/17	Calculating the A Matrix for LSS CT	
	9/27/17	Conguate Gradient Method for LSS	
	9/29/17	Conjugate Gradient Method for LSS	
Week 6	10/2/17	<b>Presentation 2</b>	Project 2 Reflection
	10/4/17	<b>Presentation 2</b>	Due Monday 10/9/17
	10/6/17	<b>Presentation 2</b>	
Week 7	10/9/17	Methods for CT: Back Projection	
	10/11/17	Fourier Series	
	10/13/17	Fourier Transform	
Week 8	10/16/17	Discrete Fourier Transform	Project 3: Implement CT Method
	10/18/17	Fast Fourier Transform	Due Monday 10/30/17
	10/20/17	Methods for CT: Fourier Transform	
Week 9	10/23/17	Numerical Results with FT Method for CT	
	10/25/17	Freak Ocean Waves: Intro	
	10/27/17	Wave Equations in 1D and 2D	
Week 10	10/30/17	<b>Presentation 3</b>	Project 3 Reflection
	11/1/17	<b>Presentation 3</b>	Due Monday 11/6/17
	11/3/17	<b>Presentation 3</b>	
Week 11	11/6/17	Derivation of PDE for Wave Equation	<b>FINAL PROJECT</b>
	11/8/17	First Order System Formulations of Wave Equation	<b>Due Monday 12/4/17</b>
	11/10/17	Solving PDEs Numerically	<b>Outline Due Monday 11/13/17</b>
Week 12	11/13/17	Dispersion Analysis for Finite-Difference Approximations	
	11/15/17	Derivation of the Hamilton Equations	
	11/17/17	A Mechanism for Freak Ocean Waves	
	11/20/17	<b>Thanksgiving Break</b>	
	11/22/17	<b>Thanksgiving Break</b>	
	11/24/17	<b>Thanksgiving Break</b>	
Week 13	11/27/17	Test Problem for Freak Ocean Waves - It Works!	
	11/29/17	<b>FIELD TRIP!!</b>	
	12/1/17	Transport Problem	
Week 14	12/4/17	<b>Final Presentation</b>	Take-home Exam
	12/6/17	<b>Final Presentation</b>	Due Monday 12/11/17
	12/8/17	<b>Final Presentation</b>	
Week 15	12/11/17	<b>Final Presentation</b>	
	12/13/17	<b>Final Presentation</b>	
	12/15/17	<b>No Class</b>	