

MASE 6402/MME 5401 Weekly Calendar (Subject to Change)

B&K= Brandon and Kapplan; ART = Article; BB=Blackboard; DBT = Discussion Board Topic

The due date for uploaded assignments and quizzes is always 11:59 PM (MST) on the indicated date. Discussion board participation is always due 11:59 PM on Sundays. No late work will be accepted.

	Topic	Readings Due	Assignments Due	Notes
Week 1 8/24-8/28	<ul style="list-style-type: none"> Course Intro Overview of Characterization Techniques 	Review syllabus, Fold Scope Ted Talk, BB Lecture 1, B &K Chapter 1.	Syllabus Quiz DUE 8/28 DBT: <i>How can even the simplest characterization tool improve your characterization ability?</i>	Ted Talk is on YouTube: https://www.youtube.com/watch?v=h8cF5QPPmWU
Week 2 8/31-9/4	Surface Characterization	BB Lecture 2, B&K Chapter 7/8	DBT: <i>What technology advancements contributed to the development of surface probe microscopy?</i>	
Week 3 9/7-9/11	<ul style="list-style-type: none"> Surface Characterization Digital Imaging Dimensional References 	BB Lecture 3 B&K Chapter 7/8 ART: Structure color	DBT: <i>If I were making a thin film structure, what surface characterization techniques should I use?</i> SURFACE CHARACTERIZATION QUIZ DUE 9/12	
Week 4 9/14-9/18	Optical Microscopy	BB Lecture 4 Metallography Video B&K Chapter 3	DBT: <i>How is a microscope used for metallography different than that uses for biological specimens?</i> OM QUIZ DUE 9/19	
Week 5 9/21-9/25	Optical Microscopy	BB Lecture 6 B&K Chapter 3	DBT: <i>Does etching a metallographic specimen take advantage of structure color of pigment color?</i> OM LAB MODULE DUE 9/26	
Week 6 9/28-10/2	X-Ray Diffraction	BB Lecture 7 B&K Chapter 2	DBT: <i>Could you perform X-Ray diffraction with polychromatic X-Rays?</i> XRD QUIZ DUE 10/3	Groups will be arranged at random.

Week 7 10/5-10/9	X-Ray Diffraction	BB Lecture 8 B&K Chapter 2 ART: "Metal Fabrication..."	DBT: Based on the article reading this week, how do X-Ray diffraction and optical microscopy complement each other? XRD LAB MODULE DUE 10/10 TEST 1 Due 10/10	
Week 8 10/12-10/16	Electron Microscopy SEM	BB Lecture 9 B&K Chapter 5	DBT: If You could only have a SEM with one type of signal detector, which one would you pick and why?	
Week 9 10/19-10/23	Electron Microscopy SEM	B&K Chapter 5	DBT: Based on the provided image, which type of electron signal created the image? SEM LAB MODULE DUE 10/24	Groups will be arranged at random.
Week 10 10/26-10/30	Electron Microscopy SEM	BB Lecture 10 B&K Chapter 5	DBT: Based on the provided image, which type of electron signal created the image? (Round 2) SEM QUIZ: DUE 11/1	
Week 11 11/2-11/6	Electron Microscopy TEM	BB Lecture 11 B&K Chapter 4	DBT: Based on the provided Image, which contrast mechanisms do you see?	
Week 12 11/9-11/13	Electron Microscopy TEM	BB Lecture 12 B&K Chapter 4	DBT: Based on the provided Image, which contrast mechanisms do you see? (Round 2) TEM QUIZ: DUE 11/14	
Week 13 11/16-11/20	Electron Microscopy TEM	BB Lecture 13 B&K Chapter 4	DBT: If you had a mystery chunk of material, but could only use one material characterization technique, which one would it be and why? TEST 2 DUE 11/21	

Week 14 11/23- 11/27	Open		TEM LAB MODULE DUE 11/25 (Before Thanksgiving)	No DBT! Thanksgiving Holiday
Week 15 11/30- 12/4	Open		Final Project Or Review for Final	Virtually collaborate gathered data for project. Project Due 12/11