

Schedule of Topics for Biol. 326 Electron Microscope Techniques in Biology

Instructor: [Robert J. Schmitz](#)

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This list of topics is meant to be a guide to the subjects that will be studied in the course. As the course progresses this list will vary slightly depending on the needs of the students enrolled.

week of semester	Topics	Rental Text reading
preclass	Please read Chapter 1 and Chapter 21 of Bozzola prior to coming to class	Bozz Chapter 1, 21
WK 2	Lecture: Introduction to the process of specimen preparation for TEM Tues. Lab: Introduction to the lab and lab safety, glass knife making, block trimming Thurs. Lab: Practice knife making and block trimming	Bozz Chapter 3
WK 3	Lecture: The Ultramicrotome Tues. Lab: Using the Ultrmicrotome Thurs. Lab: Thick sections	Bozz Chapter 4
WK 4	Lecture: Introduction to the Transmission Electron Microscope Tues. Lab: TEM Demonstration Thurs. Lab: Block Trimming, Thick sections	Bozz Chapter 6
WK 5	Lecture: Making thin sections and staining grids Tues. Lab: Making thin sections Thurs. Lab: Sectioning	Bozz Chapter 5
WK 6	Lecture: Specimen Fixation and Embedding Tues. Lab: Plan fixation and Embedding procedure, Demonstrate Grid staining Thurs. Lab: Sectioning	Bozz Chapter 2
WK 7	Lecture and Tues. Lab: Fix specimens Thurs. Lab: Embed specimens (will carry over into Friday and Saturday)	
WK 8	Lecture: Theory and use of the Transmission Electron Microscope	Bozz Chapter 6

	Tues. Lab: Using the Electron Microscope Thurs. Lab: Sectioning	
WK 9	Lecture: Principles of Cell Ultrastructure Tues. Lab: Using the Electron Microscope Thurs. Lab: Sectioning	Bozz Chapter 20 Cross and Mercer
WK 10	Lecture: Artifacts Tues. Lab: Using the Electron Microscope Thurs. Lab: Sectioning (or fixing and Embedding plant tissues)	Bozz Chapter 19
WK 11	Lecture: Producing the Electron Micrograph Tues. Lab: Using the Electron Microscope Thurs. Lab: Sectioning	Bozz Chapter 8, 18
WK 12	Tues. Lab: Using the Electron Microscope or making prints Thurs. Lab: Sectioning	
WK 13	Tues. Lab: Using the Electron Microscope or making prints Thurs. Lab: Sectioning Ends	
WK 14	Tues. Lab: Using the Electron Microscope or making prints Thurs. Lab: Using the Electron Microscope or making prints	
WK 15	Lecture: Exam Tues. Lab: Using the Electron Microscope or making prints Thurs. Lab: Micrograph Portfolio Due and Lab Checkout	
Finals WK	Meet to discuss scores, evaluate portfolio and determine grade	

[Dr. Robert J. Schmitz](#)

ph. 715-346-2420

email: **rschmitz@uwsp.edu**

Room: 380 TNR Building

Department of Biology, UWSP

Stevens Point, WI 54481