The objectives of this course are to:

- Introduce the theory, design and operating principals of the transmission electron microscope (TEM), scanning electron microscope (SEM) and various types of light microscopes used in modern biological research.
- Familiarize you with techniques for preparing biological materials for examination by microscopy.
- Discuss the production and interpretation of biological electron micrographs.
- Prepare to you take the hands-on laboratory courses that will train you in these techniques, if you are interested in doing so. These are Bio Sci 543/543G (Scanning Electron Microscope Laboratory) and Bio Sci 544/544G (Transmission Electron Microscope Laboratory). Because of Covid-19 they cannot be offered now, but successful completion of this course (Bio Sci 542) will let you register for them when they are offered in the future.