

Advanced Course in Histology

Lecture/Lab. Academic year 1,2 credits 2,4

[Keywords] histology, oral histology, epithelium, connective tissue

[Academics] Hiroaki Takebe

[Course aims]

This course deals with general and oral histology. To acquire a better understanding of cellular and extracellular events involving teeth and periodontal tissue, students are expected to understand general histology, including that of the epithelium, connective tissue, bone, and cartilage, as well as the cellular and extracellular construction of tooth and periodontal tissue. In their laboratory work, students learn tissue preparation for light and electron microscopes, and how to handle animals used for experiments.

[Course objectives]

The goals of this course are for students to be able to:

- (1) Understand the morphologic features of the epithelium, connective tissue, bone, and cartilage
- (2) Acquire the skills needed to handle animals used for experimentation.
- (3) Learn the correct techniques for making specimens for light and electron microscopy
- (4) Learn the techniques for staining of sections and immunohistochemistry for light and electron microscopy.

[Course content]

Class	Theme	Content	Academics
1	Classroom lectures	general histology, oral histology	Hiroaki Takebe
2	Laboratory courses focused on learning the techniques used for histology.	1) Perfusion fixation via the aorta 2) Conventional hematoxylin-eosin staining of sections 3) Special and immunohistochemical staining (uses, purposes, techniques, evaluation) 4) Techniques for cryosection and electron microscopy (sample preparation, cutout, staining)	Hiroaki Takebe

[Class implementation method]

Combination of face-to-face learning and distance learning

\* Class implementation depends on the implementation policy of each department (graduate school), interdisciplinary studies, and school.

[Grading policies]

Your overall grade in class will be decided based on class attendance and reports.

[Textbook]

Students will be informed of which textbook to use.

[Reference book]

Students will be informed of which reference book to use.

[Preparation for course]

Students must understand the objectives of the course and prepare appropriately for classes.