

BIOENG-516

Lab methods : histology

Cursus	Sem.	Type
Bioengineering	MA3	Opt.
Life Sciences Engineering	MA1, MA3	Opt.
Sciences du vivant	MA3	Opt.

Language of teaching	English
Credits	2
Withdrawal	Unauthorized
Session	Winter
Semester	Fall
Exam	During the semester
Workload	60h
Weeks	14
Hours	2 weekly
Project	2 weekly
Number of positions	12

It is not allowed to withdraw from this subject after the registration deadline.

Remark

Pas donné en 2020-2021. Inscriptions sur dossier auprès de la responsable du cours; présence aux cours obligatoire

Summary

Presentation of the diverse techniques to prepare samples for bright field microscopy, as well as procedures for standard histology stains and proteins detection with observation of tissues under microscope.

Content

Theory :

- Sample preparation for bright field microscopy
- Artefacts
- Special staining
- Protein detection
- Introduction to pathology

Praxis :

- Frozen and paraffin section (cryostat and microtome)
- Routine stain for pathology (hematoxylin and eosine)
- Special stain to highlight different structures
- Immunohistochemistry
- Observation and description of tissues under microscope

Keywords

Techniques
Histology
Microscopy
pathology

Learning Prerequisites**Required courses**

No

Learning Outcomes

By the end of the course, the student must be able to:

- Choose Methods to prepare samples
- Compare Advantages and disadvantages of different techniques
- Describe Methods for protein detection
- Perform Protocols for Hematoxylin and eosin as well as immunohistochemistry
- Recognize Structures in tissues

Transversal skills

- Plan and carry out activities in a way which makes optimal use of available time and other resources.

Teaching methods

Ex cathedra teaching and praxis

Expected student activities

Lecture will take place on the 19th, 20th and 24th of September 2019

Attendance at lectures

Completing the practical part

Prepare and present a description about one tissue and the techniques used during praxis

Assessment methods

Written exam

Resources

Bibliography

Theory and practice of histological techniques / ed. by John D. Bancroft [et al.], 6th edition

Websites

- <http://hcf.epfl.ch>

Moodle Link

- <http://moodle.epfl.ch/course/view.php?id=13391>