Lab methods : histology

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Cursus | Sem. | Type
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Bioingénierie | MA1, MA3 | Opt.
Ingénierie des sciences du vivant | MA1, MA3 | Opt.
Sciences du vivant | MA1, MA3 | Opt.

Language | 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

Remarque
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 (hemaotoxylin 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 pratical part
Prepare and present a description about one tissue and the techniques used during praxis

Assessment methods
Written exam

Resources
Bibliography

Websites
• http://hcf.epfl.ch

Moodle Link
• http://moodle.epfl.ch/course/view.php?id=13391