

INTRODUCTION TO THE COURSE

MediP011

COURSE STRUCTURE

Course identifier: MediP011

Credit points (LU): 3

ECTS credit points: 4.50

Lecture hours: 32

Seminar & practical hours: 34 (no Lab works!!!)

Individual study hours: 54



Lecturer

Assistant professor
Dr. biol. Zane Kalniņa
zane@biomed.lu.lv



Practical work tutor

MD Artis Lapsins
a.lapsins@gmail.com

COURSE CONTENT – TOPICS (I)

Test 1

1. The outline of the cell structure. The nucleus. DNA
2. Cell cycle. Cell division – mitosis, meiosis. DNA replication
3. Transcription & Translation. Cell energetics

Test 2

4. Plasma membrane. Cell receptors & signalling
5. Cytoskeleton. Cell secretion system
6. Epithelial tissue
7. Glands

Test 3

8. Connective tissues & Collagen
9. Cartilage and bones

COURSE CONTENT – TOPICS (II)

Test 4

- 10. Blood and blood cells, haematopoiesis
- 11. Immune system (innate immunity)
- 12. Immune system (adaptive immunity)

Test 5

- 13. Myocytes – types & functions, muscle tissue types
- 14. Neurocytes – classification, structure & functions. Neurocyte interactions
- 15. Optional lecture on Cancer biology

ASSESSMENTS

The final mark is composed of the following:

- ❑ 20% = practicals & seminars (attendance, active participation)
- ❑ 30% = 5 tests (each at least grade 4)
- ❑ 50% = exam – consists of 3 parts (all at least grade 4):
 - written (MCQ)
 - oral (topics from all of the course)
 - practical (microscopy)

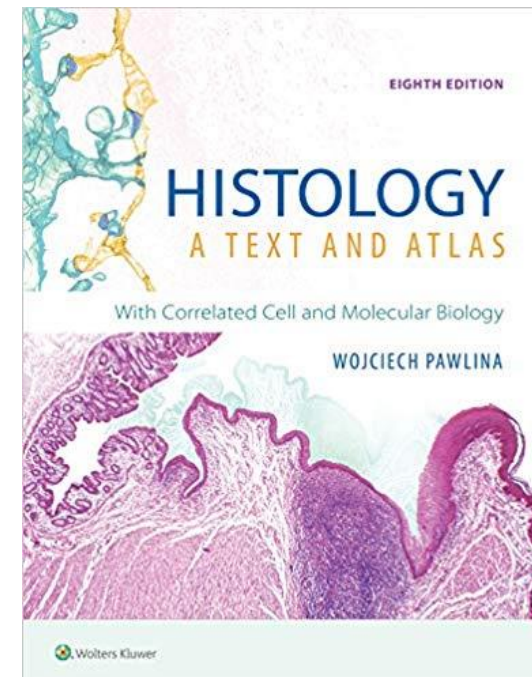
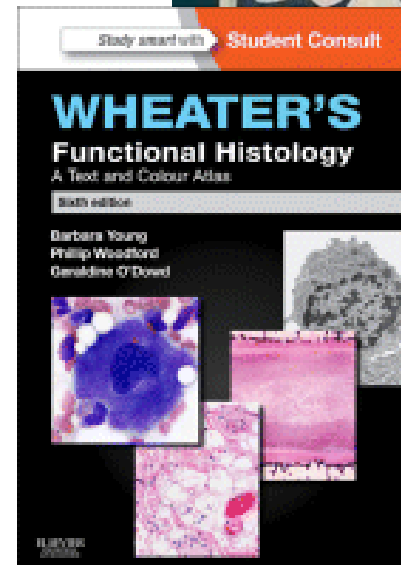
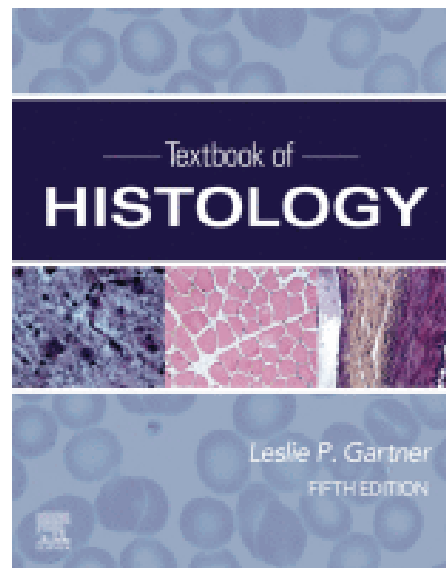
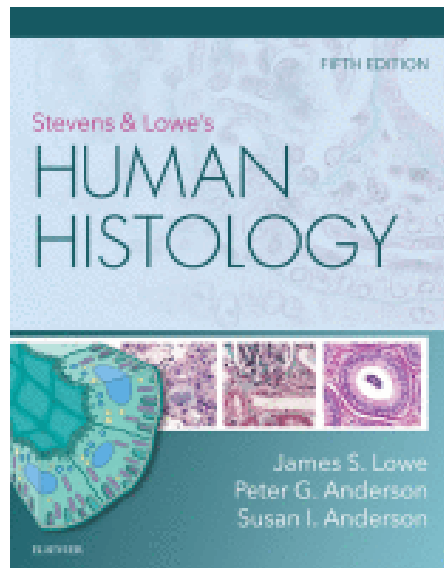
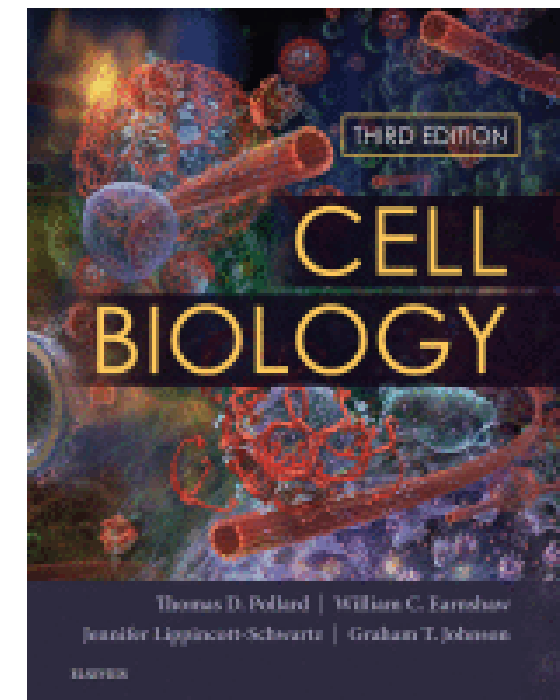
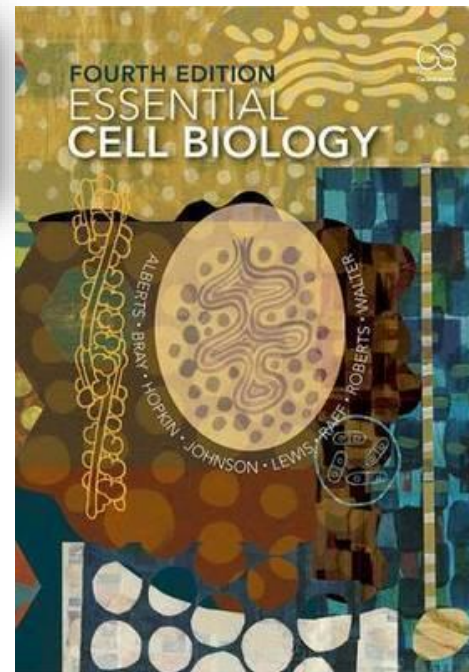
No worries - we will specify the format and answer all your questions regarding assessments in due time!

RESOURCES FOR LEARNING

- ❑ Lecture & practical class materials (available in e-studies)
- ❑ Textbooks & ClinicalKey database
- ❑ Consultations during seminars and practicals



*Not in clinical key



SCHEDULE FOR THE FIRST WEEKS

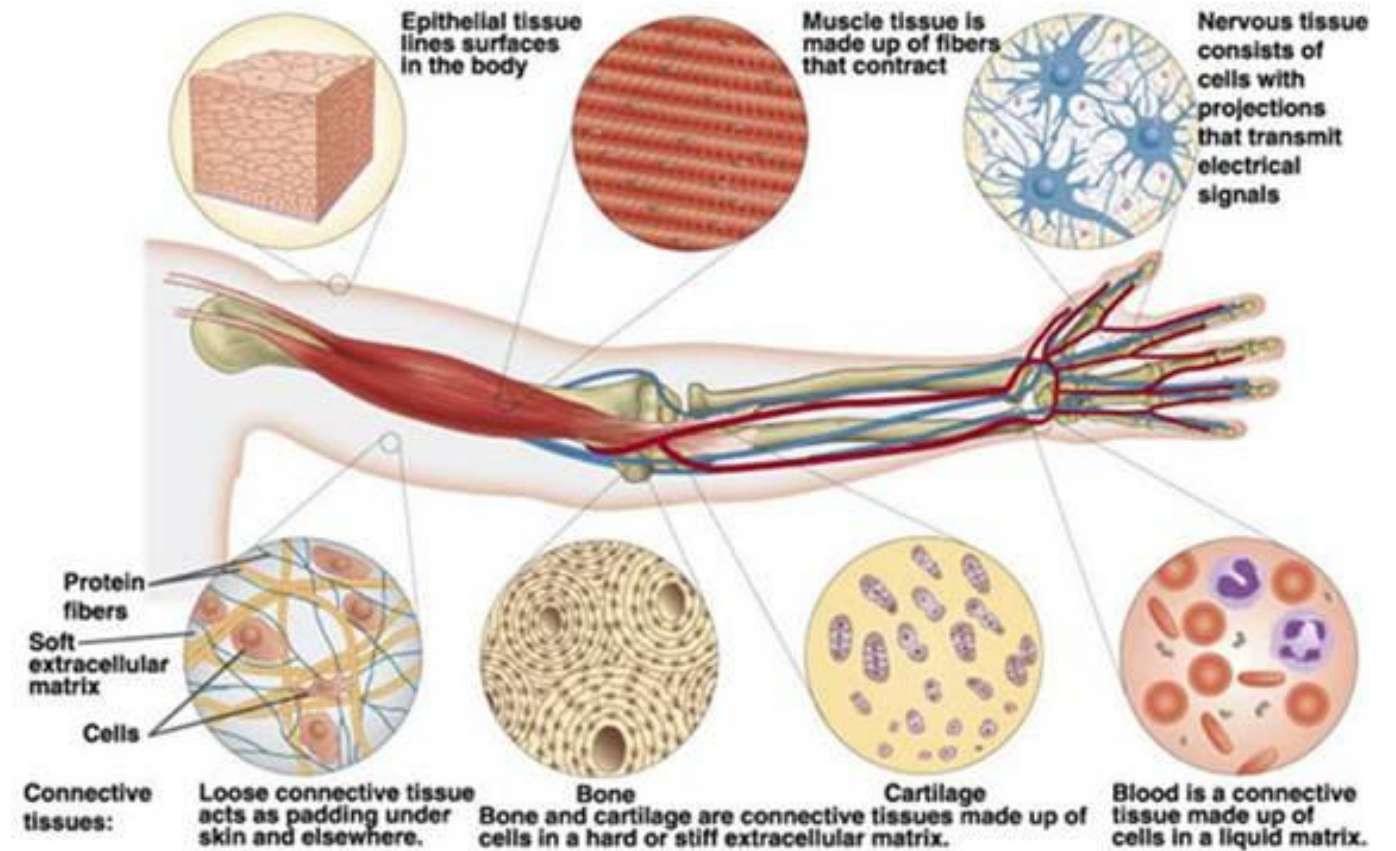
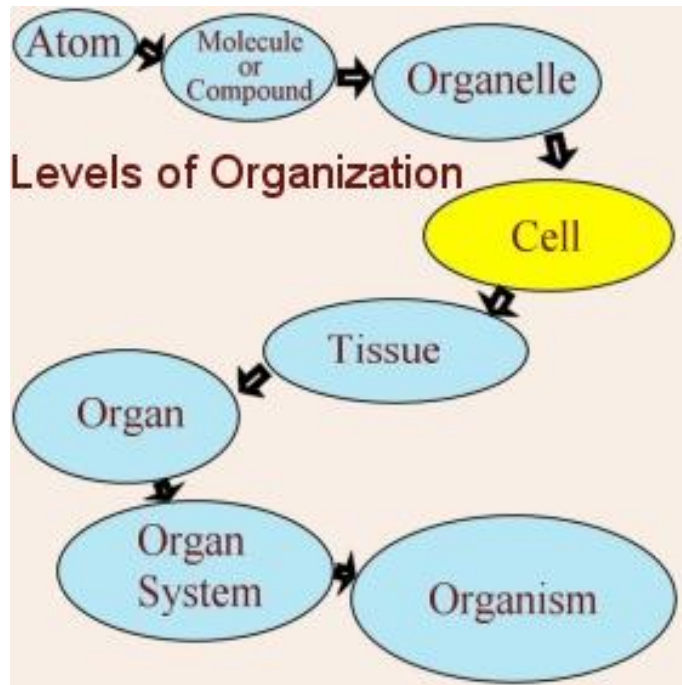
		Thursdays 9:00-10:30, Room 203	Fridays 10:30-12:00 (G1) and 12:30-14:00 (G2) Room 327
Study week	Date	Lectures (Dr. Zane Kalniņa)	Practicals (MD Artis Lapsiņš)
1	7 Sep	Introduction to the course. Lecture 1. The outline of the cell structure. The nucleus. DNA.	Introduction to microscopy room, microscope use, tissue processing, and staining techniques (histology, cytology, immunohistochemistry), introduction to cell structures, extracellular matrix, and fibers
2	14 Sep	Lecture 2. Cell cycle. Cell division – mitosis, meiosis. DNA Replication	Cell division phases microscopy, introduction to cell types, epithelial types.
3	21 Sep	Lecture 3. Transcription & Translation	Seminar on protein diversity in the cell, genetic code & translation, ORF use, alternative splicing (by Zane Kalnina)
4	28 Sep	Q/A considering first 3 topics. Test 1. Lecture 4. Plasma membrane. Cell receptors & signalling	Seminar on signalling systems relevant to medicine/disease

The university birthday, a holiday. Proposed alternative class: Tuesday, September 26, 8:30-10:00



All the actual information on the changes
in the schedule, room numbers,
assessments will be put on the
e-study News section

THE DIVERSITY OF CELLS



<https://www.youtube.com/watch?v=gFuEo2ccTPA>

THE SCALE OF THE LIVING WORLD

<https://www.youtube.com/watch?v=bhofN1xX6u0>



<http://htwins.net/scale/>

The Scale of the Universe

Play

By Cary Huang

Technical Support by Michael Huang

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Music by Kevin MacLeod (<http://incompetech.com>)