

# Developmental Biology I. course

2018/2019. year 1st semester

## Topics of the exam

1. Organization centers, Spemann organiser and its molecular background.
2. Regulatory factors in ontogeny I. Transcription factors and Hox genes, segmentation of the body.
3. Regulatory factors in ontogeny II. Signal molecules. Growth factors.
4. Regulatory factors in ontogeny III. Epigenetic effects, DNA metilation, imprinting.
5. Stem cell biology, regeneration.
6. Function of ECM in the early embryo. Role of basal membrane in cell migration, branching of epithelia.
7. Germ cell line determination: specification, migration, development
8. Gastrulation.
9. Patterning of mammalian embryo: antero-posterior and dorso-ventral patterning.
10. Formation of embryonic mesoderm.