Developmental Biology and Genetics (BIMA82), 15 hp

Scheme for fall 2017

(teaching period I)

Responsible for the course:
Stefan Baumgartner BMC D1021b
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E-post: Stefan.Baumgartner@med.lu.se
Please note that all activities are mandatory, except the lectures.

Course week 1  Genetics

Monday 28/8
09.00-11.00  Introduction into PBL for foreign students, D1019, Stefan Baumgartner

Tuesday 29/8
09.00-09.30  Call in. Stefan Baumgartner. GK-hall, BMC.
10.15-12.15  PBL-1 (see scheme).
13.00-15.00  Lecture: “Basics of genetics and genomic variation”. Distribution of article for discussion, Kristina Aaltonen. GK-hall, BMC.
15.00-17.00  Practical calculations: “Recombinations and probabilities”. Kristina Aaltonen. GK-hall. BMC

Wednesday 30/8
13.00-15.00  Lecture: “Population genetics and multifactorial diseases”. Kristina Aaltonen. Rune Grubb-hall, BMC.

Thursday 31/8
13.00-15.00  Lecture: "Genomics in medicine". Emma Ahlqvist. GK-hall, BMC.

Friday 1/9
Notify teacher of questions to be discussed on Monday.

Monday 4/9
10.15-12.15  PBL-2 (see scheme).
13.00-13.45  Discussion on ethical questions in genomics based on the article. Kristina Aaltonen. Rune Grubb-hall, BMC.
14.00-15.00  Interactive summary lecture based on incoming questions on all aspects of genetics. Kristina Aaltonen. Rune Grubb-hall, BMC.

Course week 2  Fertilization, cleavage / C. elegans.

Tuesday 5/9
10.15-12.15  PBL-1 (see scheme).
13.00-14.30  Lecture: "Overview of all weeks of the course”. “Glossary for all weeks”. “Concepts of Developmental Biology”. Stefan Baumgartner. GK-hall, BMC.
14.30-17.00  Lecture: "Gametogenesis, Fertilization”. Distribution of articles for presentation. Stefan Baumgartner. GK-hall, BMC.

Thursday 7/9
09.15-12.15  Lecture: “Cleavage. Stefan Baumgartner. GK-hall, BMC.
13.00-14.00  Lecture: "C. elegans development”. Stefan Baumgartner GK-hall, BMC.
14.00-15.00  Film “Cell fate and cell lineages in C. elegans”. Stefan Baumgartner. GK-hall, BMC.
15.00-17.00  Practical calculations: “Pedigrees and linkage analysis”. Kristina Aaltonen. GK-hall. BMC

Friday 8/9  Notify teacher of questions to be discussed on Monday.

Monday 11/9
10.15-12.15  PBL-2 (see scheme).
13.00-13.45  Article presentations group A. Stefan Baumgartner. Rune Grubb-hall, BMC.
14.00-15.00  Interactive summary lecture based on incoming questions on fertilization / cleavage and C. elegans. Stefan Baumgartner. Rune Grubb-hall, BMC.

Course week 3  Early development in invertebrates.

Tuesday 12/9
10.15-12.15  PBL-1 (see scheme).
13.00-15.00  Lecture: "Early development in invertebrates I”. Udo Häcker. GK-hall, BMC.

Wednesday 13/9
10.15-12.15  Lecture: "Early development in invertebrates II”. Udo Häcker. Rune Grubb-hall, BMC.
13.00-15.00  Practical calculations: “Hardy-Weinberg proportions and population genetics”. Kristina Aaltonen. Rune Grubb-hall. BMC

Friday 15/9  Notify teacher of questions to be discussed on Monday.

Monday 18/9
10.15-12.15  PBL-2 (see scheme).
13.00-14.00  Interactive summary lecture based on incoming questions on early development in invertebrates, Udo Häcker, Rune Grubb-hall, BMC.

Course week 4  Early development in vertebrates: amphibians and fish.

Tuesday 19/9
10.00-10.15  meeting course leader and tutors, corridor around I1208, I1211.&I1211. PBL-1 (see scheme). Distribution of questionnaire: "how does the PBL work for me?"
10.15-12.15  "Cell communication during development”. Distribution of articles for presentation. Udo Häcker. Rune Grubb-hall, BMC.
13.00-15.00  Lecture: "Early development in vertebrates I: amphibians and fish”. Udo Häcker. GK-hall, BMC.

Wednesday 20/9
Thursday 21/9
14.00-17.00 Demonstration/Practical work. Udo Häcker, Stefan Baumgartner, Edgar Pera. Lab D10. Groups 4-6.

Friday 22/9
Notify teacher of questions to be discussed on Monday.

Monday 25/9
10.15-12.15 PBL-2 (see scheme). Leave questionnaire back to tutor.
13.00-13.45 Article presentations. Groups B, C. Udo Häcker. GK-hall, BMC.
14.00-15.00 Interactive summary lecture based on incoming questions on early development in amphibia ns and fish, Udo Häcker, GK-hall, BMC.

Course week 5 Early development in vertebrates: birds and mammals.

Tuesday 26/9
10.15-12.15 PBL-1 (see scheme).
13.00-15.00 Lecture: "Early development in vertebrates II: birds and mammals". Distribution of articles for presentation. Udo Häcker. GK-hall, BMC
 Individual discussion with the tutor about PBL.
 Tutor allocates time and location.

Wednesday 27/9
10.15-12.15 Lecture: "Early development in vertebrates III: birds and mammals"
 Udo Häcker. GK-hall, BMC.
13.00-15.00 Demonstration/Practical work. Udo Häcker, Stefan Baumgartner.
 Lab, D1018a. Groups 1+2.
 Explanations on reports to be handed in.
15.00-17.00 Demonstration/Practical work. Udo Häcker, Stefan Baumgartner
 Lab, D1018a. Groups 3+4.
 Explanations on reports to be handed in.

Thursday 28/9
13.00-15.00 Demonstration/Practical work. Udo Häcker, Stefan Baumgartner
 Lab, D1018a. Groups 5+6.
 Explanations on reports to be handed in.

Friday 29/9
Notify teacher of questions to be discussed on Monday.

Monday 2/10
10.15-12.15 PBL-2 (see scheme).
13.00-13.45 Article presentations. Groups D, E. Udo Häcker. GK-hall, BMC.
14.00-15.00 Interactive summary lecture based on incoming questions on early development of birds and mammals, Udo Häcker, GK-hall, BMC.
Course week 6  Neurogenesis.

Tuesday 3/10
10.00-10.15  meeting course leader and tutors, corridor around I1208, I1211&I1211.
10.15-12.15  PBL-1 (see scheme).
13.00-15.00  Lecture: "Formation of the nervous system; birth and migration of neurons and glia, determination of neural cell fate". Distribution of articles for presentation. Per Ekström. GK-hall, BMC.

Wednesday 4/10
13.00-15.00  Lecture: "Formation of the nervous system; axon-outgrowth and - guidance, formation of synapses, trophic factors and survival". Per Ekström. Rune Grubb-hall BMC.
15.15-16.15  Lecture: "Formation of the eye". Per Ekström, Rune Grubb-hall, BMC.

Friday 6/10  Notify teacher of questions to be discussed on Monday.

Monday 9/10
08.00-09.00  Article presentation. Group F. Per Ekström. GK-hall, BMC.
09.00-10.00  Interactive summary lecture based on incoming questions on neurogenesis, Per Ekström, GK-hall, BMC.
10.15-12.15  PBL-2 (see scheme).

Hand in written report from the demonstrations to Udo

Course week 7  Paraxial mesoderm, limb development and regeneration.

Tuesday 10/10
10.15-12.15  PBL-1 (see scheme).
13.00-14.00  Lecture: "Paraxial mesoderm: The somites and their derivatives". Edgar Pera. GK-hall, BMC.
14.00-16.00  Lecture: "Limb formation". Distribution of articles for presentation. Edgar Pera. GK-hall, BMC.

Wednesday 11/10
10.15-12.15  Lecture: "Regeneration". Edgar Pera. Rune Grubb-hall, BMC.

Friday 13/10  Notify teacher of questions to be discussed on Monday.

Monday 16/10
10.15-12.15  PBL-2 (see scheme).
14.00-15.00  Interactive summary lecture based on incoming questions on paraxial mesoderm, limb development and regeneration. Edgar Pera, Rune Grubb-hall, BMC.
Course week 8  Organ biology / development and environment.

Monday 16/10
15.00-17.00  PBL-1 (see scheme).

Tuesday 17/10
13.00-15.00  Development: "Formation of mesoderm-derived organs: The heart and kidney". Edgar Pera. GK-hall.

Wednesday 18/10
10.00-11.00  Lecture: "Development of the endoderm: The gut and accessory organs". Edgar Pera. GK-hall, BMC.
11.15-12.15  Lecture: "Development and environment". Stefan Baumgartner. GK-hall, BMC.

Thursday 19/10  Notify teacher of questions to be discussed on Monday.

Friday 20/10
13.00-15.00  PBL-2 (see scheme).
15.00-16.00  Interactive summary lecture based on incoming questions on organ formation. Edgar Pera. GK-hall, BMC.

General question hour possible if required. Otherwise, please approach the respective teacher directly, thanks.

Have you filled in your comments for the course evaluation in Moodle? ...thank you!

Exam

Friday 27/10
09.00-14.00  Exam. Health Science Center C 144, Baravägen 3
GOOD LUCK!

Thursday 9/11
15.30-17.00  Course evaluation meeting with students, tutors and teachers. D1044a, BMC.

Monday 20/11
09.00-14.00  Re-exam. BMC D1019a.

Friday 15/12
09.00-14.00  Re-exam. BMC D1019a.
## PBL

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### Group allocation for PBL, articles, chairpersons/opponents

**PBL Group I Udo Häcker**

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**Edgar Pera**

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