Developmental Biology and Genetics (BIMA82), 15 hp

Scheme for fall 2017

(teaching period I)

Responsible for the course:
Stefan Baumgartner BMC D1021b
Tel: 046 222 3893 / mobile 0767 14 37 50
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
10.15-12.15 Lecture: "Studying inheritance through crossings and pedigrees". Kristina Aaltonen. Rune Grubb-hall, BMC.
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". Distribution of articles for presentation. 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).
13.00-13.45 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 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.
10.15-12.15 PBL-1 (see scheme). Distribution of questionnaire: "how does the PBL work for me?"
13.00-15.00 Lecture: "Cell communication during development". Distribution of articles for presentation. Udo Häcker. Rune Grubb-hall, BMC.

Wednesday 20/9
10.15-12.15 Lecture: "Early development in vertebrates I: amphibians and fish". Udo Häcker. GK-hall, BMC.
14.00-17.00 Demonstration/Practical work. Udo Häcker, Stefan Baumgartner, Edgar Pera. Lab D10. Groups XX. Distribution of homework.
Thursday 21/9
14.00-17.00 Demonstration/Practical work. Udo Häcker, Stefan Baumgartner, Edgar Pera. Lab D10. Groups YY. Distribution of homework.

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 D, E. Udo Häcker. GK-hall, BMC.
14.00-15.00 Interactive summary lecture based on incoming questions on early development in amphibians and fish, Udo Häcker, GK-hall, BMC. Leave written homework/report back to teacher.

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

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 XX.
15.00-17.00 Demonstration/Practical work. Udo Häcker, Stefan Baumgartner Lab, D1018a. Groups YY.

Thursday 28/9
13.00-15.00 Demonstration/Practical work. Udo Häcker, Stefan Baumgartner Lab, D1018a. Groups ZZ.

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

Monday 2/10
10.15-12.15 PBL-2 (see scheme).
13.00-14.00 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).

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  

**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.

**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.

**Tuesday 20/11**  
09.00-14.00  
Re-exam. I1245+I1250 / BMC D1019a (will be notified).

**Friday 15/12**  
09.00-14.00  
Re-exam. BMC D1019a.
Group allocation for PBL, articles, chairpersons/opponents

<table>
<thead>
<tr>
<th>PBL</th>
<th>Group I Udo Häcker</th>
<th>article</th>
<th>chair/opp</th>
<th>PBL</th>
<th>Group II Edgar Pera</th>
<th>article</th>
<th>chair/opp</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elin Arvidsson</td>
<td>A</td>
<td>H</td>
<td></td>
<td>Hanna Barresjö</td>
<td>A</td>
<td>H</td>
</tr>
<tr>
<td></td>
<td>Beatrice Fageräng</td>
<td>B</td>
<td>G</td>
<td></td>
<td>Matthias Franzén Boger</td>
<td>B</td>
<td>H</td>
</tr>
<tr>
<td></td>
<td>Ariana Friberg</td>
<td>C</td>
<td>F</td>
<td></td>
<td>Johanna Johansson</td>
<td>C</td>
<td>G</td>
</tr>
<tr>
<td></td>
<td>Mohanad Hayatleh</td>
<td>D</td>
<td>E</td>
<td></td>
<td>Madeleine Lehander</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>Anni Malm</td>
<td>E</td>
<td>D</td>
<td></td>
<td>Julia Lindqvist</td>
<td>E</td>
<td>F</td>
</tr>
<tr>
<td></td>
<td>Emma Nyberg</td>
<td>F</td>
<td>C</td>
<td></td>
<td>Sofia Tillgren</td>
<td>F</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td>Aida Yifter Lindgren</td>
<td>G</td>
<td>B</td>
<td></td>
<td>Rianne Rolfs</td>
<td>G</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Pieter Vaneynde</td>
<td>H</td>
<td>A</td>
<td></td>
<td>Karin Viveljung</td>
<td>H</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coen Veenstra</td>
<td>H</td>
<td>A</td>
</tr>
</tbody>
</table>