Course period: 2019-01-21-2019-02-20

Roll call: Monday, January 21, at 09.00 am, A103
Examination: 2019-02-20 – 9.00-13.00, Östra Paviljongen
Rexamination: 2019-04-17 - 16.00-20.00, Östra Paviljongen

Premises:
- Lecture hall: A103, building 6 (+ other rooms if noted)
- Laboratory experiments: Course laboratories (A109) adjacent to lecture hall A103

Course literature: Agger et al Immunologi (or Kuby: Immunology, 7th edition)

Course Leader: Anna Överby Wernstedt
E-mail: anna.overby@umu.se
Phone: 090-785 0922

Address: Immunology, Umeå University, SE-901 85 Umeå, Sweden
Visiting address: Immunology, Norrlands University Hospital, Building 6M

Course secretary: Ingela Nilsson
E-mail: ingela.nilsson@umu.se
Phone: 090-785 2869

All activities marked in grey in the schedule are OBLIGATORY!

Teachers and course assistants:
AÖW: Anna Överby Wernstedt
MF: Mattias Forsell
AS: Anders Sjöstedt
LF: Lars Frängsmyr
CU: Constantin Urban
EN: Emma Nilsson
ASL: Annasara Lenman
EH: Emma Honkala
RL: Richard Lundqvist
IG: Igor Golovlev
ED: Eva Delin
# Immunochemical techniques – 7,5hp – 5MO108

<table>
<thead>
<tr>
<th>Klockan</th>
<th>Må 21/1</th>
<th>Ti 22/1</th>
<th>On 23/1</th>
<th>To 24/1</th>
<th>Fr 25/1</th>
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<tbody>
<tr>
<td>09.00-09.45</td>
<td>Introduction to course FSR information ÄÖW (A103)</td>
<td>Transplantation immunology ÄÖW (A103)</td>
<td>Lab presentation: Problem to solve, setup tips ED (A103)</td>
<td>Immunglobulins 1 - Structure, biological properties MF (A103)</td>
<td>Supervision lab setup (gr1-3 ED) (A103) (gr4-7 IG) (Guanine)</td>
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<tr>
<td>10.00-10.45</td>
<td>An overview of the immune system - the cells and their function ÄÖW (A103)</td>
<td>MHC and T cell activation/adaptive responses ÄÖW (A103)</td>
<td>Innate immunity CU (A103)</td>
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<td>Supervision lab setup (gr8-10 ED) (A103) (gr11-13 IG) (Guanine)</td>
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<td>11.00-11.45</td>
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<td>Lab group work for solving lab setup</td>
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<td>12.00-12.45</td>
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<td>Group work</td>
<td>Lab group work for solving lab setup</td>
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<td>13.00-13.45</td>
<td>Group work intro EN (Uracil)</td>
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<th>Må 28/1</th>
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<th>To 31/1</th>
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<tr>
<td>09.00-09.45</td>
<td>Immunological techniques I – flow cytometry MF (A103)</td>
<td>Affinity Measurements - Theory and Practice, BIAcore Technologies LF (Thymine)</td>
<td>Seminar Lab setup Gr. 1-3 (IG) (A103) Gr. 4-7 (ED) (Guanine)</td>
<td>How to write a scientific paper ÄÖW (A103)</td>
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<td>10.00-10.45</td>
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<td>Seminar Lab setup Gr.8-10 (IG) (A103) Gr. 11-13 (ED) (Guanine)</td>
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# Preliminary Schedule 190108

## Immunochemical Techniques – 7.5hp – 5MO108

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<tr>
<th>Course leader: Anna Överby Wernstedt</th>
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<tr>
<td>e-mail: <a href="mailto:anna.overby@umu.se">anna.overby@umu.se</a></td>
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### Må 4/2
- **08.00-08.45**: Lab qPCR
- **09.00-09.45**: Group 1-5
  - 08.00-10.00: Lab qPCR
  - 10.30-12.30: Group 6-9
- **10.00-10.45**: Group 10-13
  - 13.30-15.30: Group 16-20
- **11.00-11.45**: EH, RL (A109)

### Ti 5/2
- **08.30-09.45**: Lab
  - Antigens, antigenicity, vaccinology
  - MF (A103)
  - Immunological techniques II
  - MF (A103)
- **10.30-12.00**: In the lab 08.00-12.00 (group schedule – until late!)
  - Lab
  - Flow cytometry d6 AD, ASL (A 109)
  - Lab intro (qPCR)
  - EH, RL (A103)

### On 6/2
- **08.00-08.45**: In the lab 08.00-08.45
- **09.00-09.45**: Preparations:
  - Group work

### To 7/2
- **08.00-08.45**: Group work
- **09.00-09.45**: Presentation group work
  - Part 1
  - EN
  - Part 2
  - EN (A109)
- **10.00-10.45**: Intro ELISA
- **11.00-11.45**: ELISA case
- **12.00-12.45**: Dry lab
- **13.00-13.45**: EH, RL (A109)

### Fr 8/2
- **08.00-08.45**: Lab report writing
- **09.00-09.45**: Self studies
- **10.00-10.45**: Intro ELISA
- **11.00-11.45**: ELISA case
- **12.00-12.45**: Dry lab
- **13.00-13.45**: EH, RL (A109)

### Fr 15/2
- **08.00-13.45**: Lab qPCR analysis
  - 13.00-14.45
  - EH, RL (Old library)
- **14.00-14.45**: Self studies
- **15.00-15.45**: Self studies
### Immunochemical techniques – 7,5hp – 5MO108

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<tr>
<th>Klockan</th>
<th>Må 18/2</th>
<th>Ti 19/2</th>
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<tbody>
<tr>
<td>09.00-09.45</td>
<td>Discussion groups -presentation of results</td>
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<td>Examination 9.00-13.00 Östra Paviljongen</td>
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<tr>
<td>10.00-10.45</td>
<td>ED/IG EH, ASL (Thymine)</td>
<td>Question time AÖW (A103)</td>
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<td>11.00-11.45</td>
<td>Lab report writing</td>
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