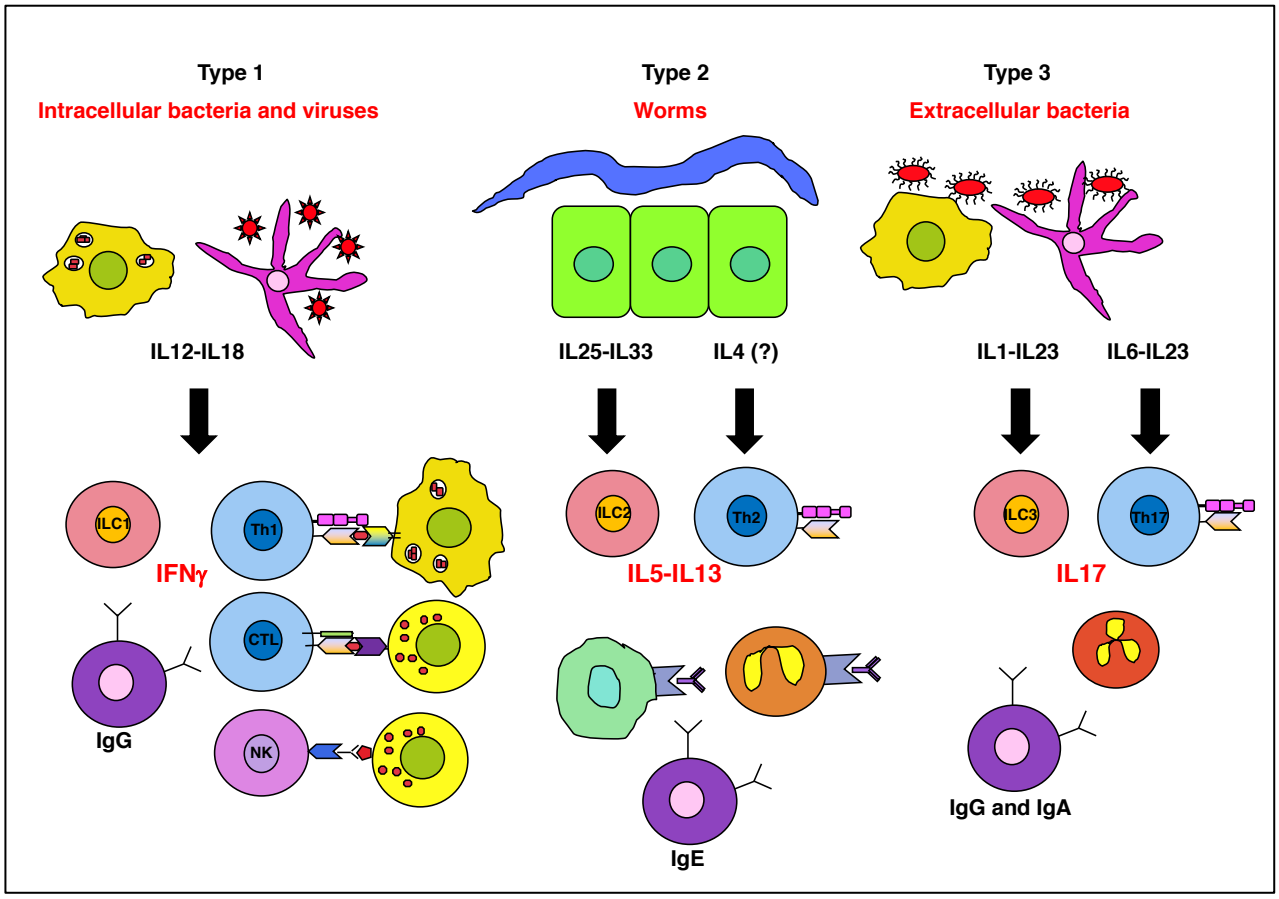
# Immunology 5MO096 7.5 hp 2020




## Department of Molecular Biology
## Umeå University


**Department of Molecular Biology**
901 87 Umeå
www.molbiol.umu.se

# Summary Schedule

| | | | 8.00 | | 9.00 | | 10.00 | | 11.00 | | 12.00 | | 13.00 | | 14.00 | | 15.00 | | 16.00 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Week 36 | Monday August 31 | | | | Introduction to the course TF | | Immune cells and organs TF | | | Intro assignment TF | | | | | | | | | | |
| | Tuesday Sept 1 | Thesis defence @13.00 | | | Innate immunity TF | | | | | | | | | | | | | | | |
| | Wednesday Sept 2 | | | | MHC and antigen presentation PPT audio file (MG) | | | | | | | | Discussion time with MG on MHC antigen presentation | | | | | | | |
| | Thursday Sept 3 | | | | BCR, B cell development and activation TF | | | | | | | | | | | | | | | |
| | Friday Sept 4 | | | | Introduction to labs + Immunological techniques JAC | | | | | | | | T cell development and activation TF | | | | | | | |
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| | Monday Sept 7 | | | | NK cells (TF) | | Cellular/humoral immunity (summary) TF | | | | | | | | | | | | | |
| | Tuesday Sept 8 | | | | ELISA Groups 1/2 + histology blood cells atlas (JAC) + Tutorial Innate immunity groups 3/4 (TF/SE) | | | | | | | | | | | | | | | |
| | Wednesday Sept 9 | | SPORT DAY (can we skip that?) | | | | | | | | | | | | | | | | | |
| Week 37 | Thursday Sept 10 | | | | ELISA Groups 3/4 + histology blood cells atlas (JAC) + Tutorial Innate immunity groups 1/2 (TF/SE) | | | | | | | | | | | | | | | |
| | Friday Sept 11 | | | | Tutorial Adaptive immunity + Case study (TF/SE) | | | | | | | | | | | | | | | |
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| Week 38 | Monday Sept14 | | | | Immunostaining groups 3/4 (JAC) + Tutorial assignment groups 1/2 (TF) | | | | | | | | | Immunostainig groups 1/2 (JAC) + Tutorial assignment groups 3/4 (TF) | | | | | | |
| | Tuesday Sept 15 | | | | Immunity to infection TF | | | | Vaccination TF | | | | | | | | | | | |
| | Wednesday Sept 16 | | | | Immunodeficency TF | | Transplantation MG PPT audio file (MG) | | | | | | | Discussion time with MG on transplatation | | | | | | |
| | Thursday Sept 17 | | | | FACS analysis Group 1 | | | | | | | | | FACS analysis Group 2 | | | | | | |
| | Friday Sept 18 | | | | FACS analysis Group 3 | | | | | | | | | FACS analysis Group 4 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| Week 39 | Monday Sept 21 | | | | Tumor immunology TF | | | | Hypersensitivity TF | | | | | | | | | | | |
| | Tuesday Sept 22 | | | | Time for individual studies | | | | | | | | | | | | | | | |
| | Wednesday Sept 23 | | | | | | | | | | | | Assignment presentation TF | | | | | | | |
| | Thursday Sept 24 | deadline lab work report (midnight) | | | Assignment presentation TF | | | | | | | | Assignment presentation TF | | | | | | | |
| | Friday Sept 25 | | | | Question time (A103) (TF) | | | | | | | | | | | | | | | |
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| Week 40 | Monday Sept 28 | | | | Time for individual studies | | | | | | | | | | | | | | | |
| | Tuesday Sept 29 | Exam | | | | | | | | | | | | | | | | | | |
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| | Saturday Nov. 21 | Re-exam | | | | | | | | | | | | | | | | | | |

# Immunology (August 31st-Septembre 29th 2020) 7,5 hp (5MO096)

Course leader: Teresa Frisan teresa.frisan@umu.se

Laboratory coordinator: Javier Avila-Cariño, javier.avila-carino@umu.se

Course administrator: Ingela Nilsson, ingela.nilsson@umu.se

Co-teachers: Martin Gulberg (MG), Saskia Erttmann (SE)

Laboratory assistants: Maria Lopez-Chiloeches, Debra Milton

**ORGANIZATION:** Department of Molecular Biology, Building 6L, Norrlands universitetssjukhus (NUS).

**LECTURE HALLS (see map below)**
Due to the COVID-19 pandemic and according to the guidelines of Umeå University, the lectures will be held mainly online via ZOOM. The course coordinator will be always available to support you during the all course.

The laboratories will be held onsite, following all the necessary safety guidelines to ensure social distancing and reduced virus spread. Guidelines for the lab work will be provided during the first day of the course.

Onsite venues:
- Thymine and Uracil (T/U) lecture hall Building 6K (I11) (entrance from second floor)
- Lab: Red and Green labs Hospital area, Building 6L (Forskningslaboratorier Undervisningsnod J0, entrance from first floor)

**COURSE MATERIAL**
Material produced by the department (pdf lectures)
Literature/text book: Janeway's Immunobiology 9th edition by Kenneth Murphy, Casey Weaver, ISBN 9780815345510

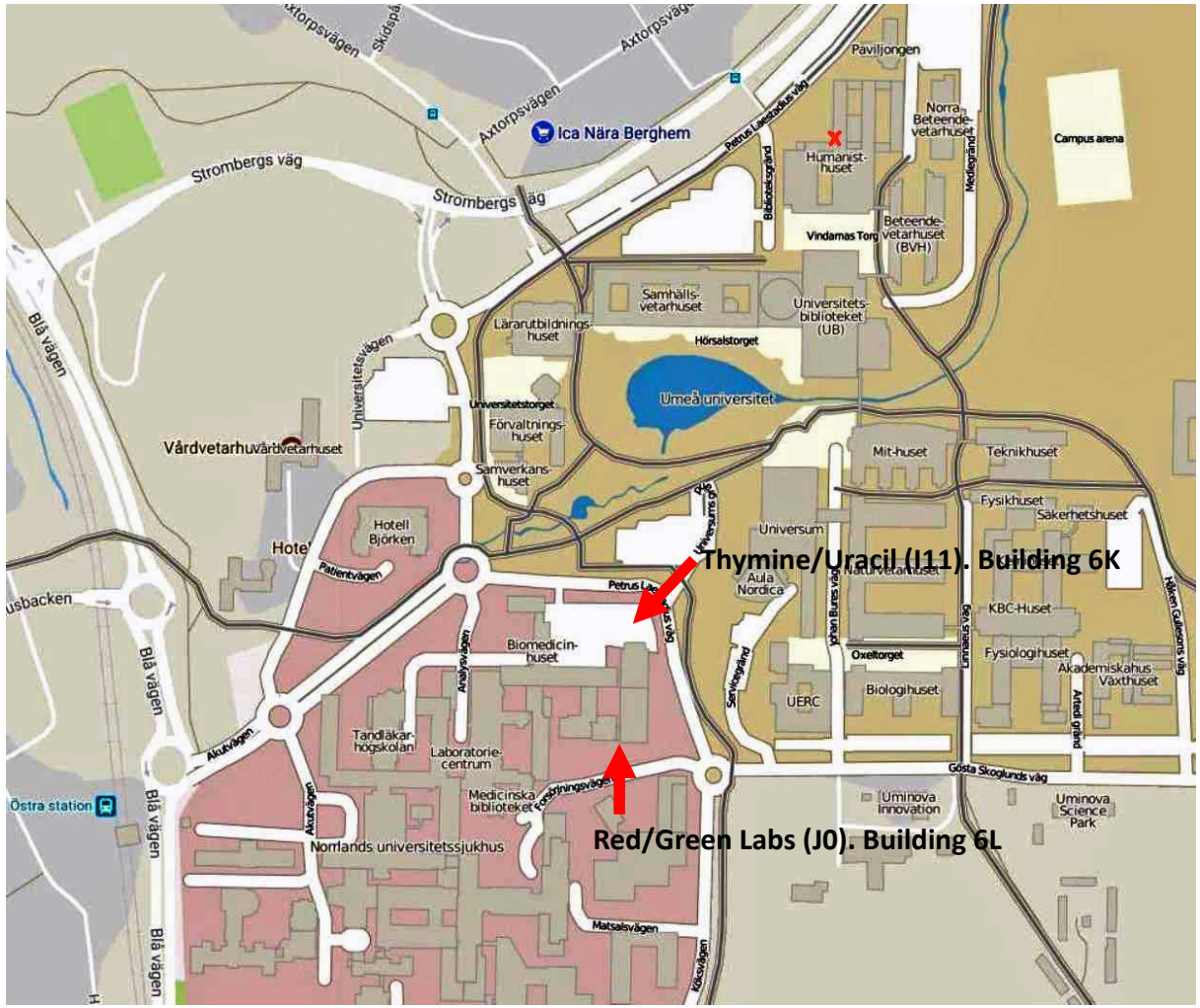
**COURSE CONTENT**
Lectures
Study assignment and presentation study assignment: **MANDATORY!**
Laboratory work: **ALL LABS ARE MANDATORY!**
Laboratory report: **MANDATORY!**

Attendance to lectures is strongly recommended.

**IMPORTANT DATES**

Th 24/09: Deadline for laboratory report (24.00 o'clock)
We and Th 23/09 and 24/09: Assignment presentations
Tu 29/09: EXAM (venue to be defined)
Sat 21/11: Re-EXAM (venue to be defined)

# Map lecture hall/laboratories



## COURSE EXPECTED LEARNING OUTCOMES

- Describe the structure of the immune system and its components
- Discuss how the immune cells develop, their activation and function, as well as the general principles of signalling in and between immune cells
- Explain how the immune response is activated in different types of stimuli
- Discuss how the immune system acts in hypersensitivity reactions, transplant rejection, autoimmunity and infectious agents
- Describe general immune related techniques
- Use the obtained factual knowledge in oral presentation.
- Plan and carry out the laboratory work in an independent manner as well as critically interpret the primary data
- Retrieve relevant information in scientific literature as well as present and discuss this in a larger group