**Microbiology, Virology, Hygiene**

The course runs for one semester in the first clinical year and spreads over 13 weeks of teaching/examination/introduction/holidays.

**Structure** (changes are possible):

- Lectures Microbiology, Hygiene, Virology, Parasitology. Four hours per week (38 total)
  
  **Topics covered:**
  - **Microbiology** (general bacteriology, gram positive cocci, Enterobacteriaceae, gastrointestinal infections, pneumonia (agents and disease), anaerobic bacteria, pathogenic fungi, meningitis (agents and disease), Mycobacteria, spirochetes, STD.
  - **Hygiene** (mechanisms and development of antibiotic resistance, hygiene, hospital acquired infection)
  - **Virology** (this is taught by the Institute for Virology as a part of our course. If you need detailed information, please consult Prof. Schätzl (schaetzl@lrz.tum.de)
  - **Parasitology** (classification of parasites, protozoa (Plasmodium, Trypanosoma, Amoeba, Leishmania, Toxoplasma), metazoan (selected nematodes, trematodes and cestodes)

- Lectures Immunology (9 hours total)
  
  **Topics covered:** Cells, organs, receptors; innate immunity, danger; B cells, antibodies; T cells, MHC, antigen presentation, thymic maturation; cytokines; memory; defence against microbes; vaccination; immunodeficiency, transplantation; immunopathology.

- Practical course/laboratory classes (four hours per week, 40 hours total)
  
  **Topics covered:** Microscopy, bacterial culture; diagnostics of bacterial species; urinary tract infection; pneumonia, PCR; antibiotics resistance; diagnostics of bacterial dysentery; hygiene and disinfection; immunological methods; blood groups; pathogenic fungi; anaerobic bacteria; clinical cases; virology (see above); protozoa (demonstration, microscopy); metazoa (demonstration, microscopy of worm eggs).

**Examination:**

Written, 45 minutes, usually 30 questions (multiple choice or short written answers), covering all of the above. Students who fail the first exam will be re-examined orally.

**Contact person:** Prof. Häcker, hacker@lrz.tum.de