

| | | |
|---|--------------------------|--|
| Module title | | Abbreviation |
| Practical Course in Microbiology and Immunology for students of biomedicine | | 03-98-PMIM-132-m01 |
| Module coordinator | | Module offered by |
| holder of the Professorship of Parasitology, holder of the Professorship of Immune Regulation | | Faculty of Medicine |
| ECTS | Method of grading | Only after succ. compl. of module(s) |
| 5 | numerical grade | -- |
| Duration | Module level | Other prerequisites |
| 1 semester | undergraduate | Admission prerequisite to assessment: regular attendance of courses (lectures excluded) as specified at the beginning of the course. |
| Contents | | |
| Part microbiology: fundamental principles of the interaction of bacterial pathogens and multicellular parasites with host organisms; invasion of mammalian cells by intracellular bacteria as well as the regulation and mode of action of bacterial virulence factors; fundamental principles of microbial diagnostics. Part immunology: how antigen recognition, uptake and presentation by dendritic cells lead to induction of activation markers, transcription factors, cytokines and proliferation of CD4+ T lymphocytes. | | |
| Intended learning outcomes | | |
| Section microbiology: Students will acquire theoretical and practical knowledge on bacterial virulence factors, their regulation and mode of action in the context of infectious disease, including the invasion of eukaryotic host cells by bacterial pathogens and the multiplication and persistence of bacteria within host cells. The students will become familiar with fundamental principles on the cultivation of bacteria and multicellular parasites under laboratory conditions as well as the utilisation of these cultivation systems for the development of novel anti-infectives. The students will become familiar with the principles of microbial diagnostics, including microbial cultivation as well as DNA-based, microscopical, serological and physiological methods of diagnostic differentiation. Section immunology: The students will acquire theoretical and practical knowledge about mechanisms that cells of the innate immune system use to sense pathogens and how this information is translated in the activation of T lymphocytes. They will learn fundamental techniques of sterile cell culture, flow cytometry and confocal microscopy analysis techniques and ELISA. | | |
| Courses (type, number of weekly contact hours, language – if other than German) | | |
| P + S (no information on SWS (weekly contact hours) and course language available) | | |
| Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus) | | |
| methods of assessment: a) written examination (45 to 60 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or e) presentation (20 to 30 minutes) | | |
| Allocation of places | | |
| -- | | |
| Additional information | | |
| -- | | |
| Workload | | |
| -- | | |
| Teaching cycle | | |
| -- | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | |
| -- | | |
| Module appears in | | |
| Bachelor' degree (1 major) Biomedicine (2013) | | |

