# Course description

## Part 1

| General information about the course | |
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| **1. Major of study:** medicine | **2. Study level:** unified MSc<br>**3. Form of study:** intramural |
| **4. Year:** IV | **5. Semester**: VII |
| **6. Course name:** Microbiology & Virusology i + II | |
| **7. Course status: r**equired | |

**8. Course objectives**

Laboratory diagnosis of infectious diseases – technique of obtaining the specimens, transport to the laboratory. Methods of cultivation and identification of bacteria. Sterilisation and disinfection: definitions, controls. Systemic bacteriology: Gram-positive cocci. Systemic bacteriology: Gram-negative cocci. Characteristic of capnophilic bacteria. Cerebrospinal fluid examination. Systemic bacteriology: Gram-positive rods. *Mycobacteria*. Characteristics and classification Gram-negative rods *Enterobacterales* family and non-fermented. Laboratory diagnosis. Mechanisms of antibiotic resistance (AmpC, ESBL, MBL, KPC, NDM, OXA-48). *Enterobacterales* I: general features. *Escherichia coli* – characteristic, antigenic structure, methods of identification. *Klebsiella* spp*., Proteus* spp*., Yersinia* spp*.* and others. Urinary tract infections (UTI): pathogenesis, and general diagnostic approaches. Systemic bacteriology: anaerobic bacteria. Medically important Clostridia – prevention and treatment of diseases caused by: *Clostridium tetani, Clostridium botulinum, Clostridium perfringens* and *Clostridioides difficile*. Sexually transmitted diseases. Enteric infections and food poisoning. Laboratory diagnosis and etiological agents of respiratory tract infections. Fastidious bacteria. Parasitology: Definition of parasitology. The definition of parasitism. Classification of parasites. Selected parasite infections of the gastrointestinal tract, genitourinary tract, blood and tissues. Hospital infections: laboratory methods required for confirmation of hospital infection. Yeasts and Molds important in medicine. Viral diseases, diagnostic approaches. Zoonoses and microbiological diagnosis.

**Learning outcomes / reference to learning outcomes indicated in** (underline as appropriate):
education standards (Regulation of the Ministry of Science and Higher Education) / Resolution of the Senate of the Medical University of Silesia (indicate terms specified in education standards / signs of learning outcomes approved by the Resolution of the Senate of the Medical University of Silesia)
For knowledge student knows and understands: C.W11-C.W20, C.W40
For skills student can do: C.U6 - C.U12, C.U15
For social competencies student is ready to: II 3C, II 3

| **9. Number of hours for the course** | **70** | **10. Number of ECTS points for the course** | **6** |
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**11. Form of evaluation:** exam

**12. Methods of verification and evaluation of learning outcomes**

| Learning outcomes | Methods of verification | Methods of evaluation*/ credit |
|---|---|---|
| **Knowledge** | Grade credit – MCQ<br>(3 middle exams during semester) | * |
| **Skills** | Observation<br>and *Practical Exam<br>(on the end of lab. classes) | * |
| **Competencies** | Observation | * |

* For exams and grade credits the following evaluation system has been assumed:

**Very good (5,0)** – the assumed learning outcomes have been achieved and significantly exceed the required level
**Better than good (4,5)** – the assumed learning outcomes have been achieved and slightly exceed the required level
**Good (4,0)** – the assumed learning outcomes have been achieved at the required level
**Better than satisfactory (3,5)** – the assumed learning outcomes have been achieved at the average required level
**Satisfactory (3,0)** – the assumed learning outcomes have been achieved at the minimum required level
**Unsatisfactory (2,0)** – the assumed learning outcomes have not been achieved