Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

Course Specifications
Valid as from the academic year 2019-2020

Hospital Hygiene (J000410)

Course size
(nominal values; actual values may depend on programme)
Credits 4.0 Study time 105 h Contact hrs 24.0 h

Course offerings and teaching methods in academic year 2020-2021
A (year) Dutch Gent lecture 25.0 h

Lecturers in academic year 2020-2021
Leroux-Roels, Isabel
Boelens, JERINA
Verhaegen, Jan
Verhasselt, Bruno

Offered in the following programmes in 2020-2021
crdts offering
Master of Science in Hospital Pharmacy 4 A

Teaching languages
Dutch

Keywords
Part II : antimicrobials - formularium - resistance

Position of the course
This course focuses on the prevention and control of nosocomial or healthcare associated infections by means of measures that prevent the transmission of microorganisms (e.g. hand hygiene, disinfection, sterilization, isolation) (part 1) and via antimicrobial therapy (part 2).

Contents
Part 1. Hospital hygiene (Prof. I. Leroux-Roels, Universiteit Gent, 12.5h)
- General aspects of healthcare associated infections or nosocomial infections: pathogenesis, chain of infection, types, causes and risk factors, epidemiology.
- Organisation of hospital hygiene in Belgium, legislation
- Standard precautions, e.g. hand hygiene, aseptic technique, personal protective equipment, prevention of needle stick injuries and splashes, respiratory hygiene, environment, hospital waste
- Cleaning, disinfection and sterilization: basic principles (Spaulding classification, the role of biofilm), overview of the different disinfectants and sterilisation methods (e.g. steam, gas, chemical), endoscopy, organisation of the Central Sterilization Unit and the hospital pharmacist’s role
- Transmission based precautions: different types of source isolation (contact, droplet, airborne and combinations), protective isolation
- Epidemiologically relevant microorganisms: e.g. MRSA, VRE, Clostridium difficile, multiresistant gramnegatives, such as ESBL, CPE, Pseudomonas aeruginosa
- Prevention of the different types of healthcare associated infections, i.e. catheter related bloodstream infections (CLABSI), urinary tract infections (CAUTI), ventilator associated pneumonia (VAP) and surgical site infections (SSI).
Part 2. Antimicrobials (Prof. J. Verhaegen, KU Leuven, 12.5h)
Antimicrobial chemotherapeutics interfere with the metabolism of microorganisms resulting in their growth inhibition or killing. The following aspects are addressed in the various chapters: spectra, mechanisms of action and mechanisms of resistance. For each group attention is also paid to the pharmacokinetic background and the implications for dosage. The course is structured as follows:

(Approved)
1. Introduction
2. Beta-lactam antibiotics
3. Macrolides and ketolides
4. Tetracyclines
5. Aminoglycosides
6. Glycopeptides
7. Rifamycins
8. Fluoroquinolones
9. Antimycotics

Initial competences

Final competences of Master of Pharmaceutical Care or Master of Drug Development or having acquired the corresponding competences in another way.

Final competences

1 Part 1. Hospital hygiene
   - The student has insight into the factors that influence the development of nosocomial or healthcare associated infections.

2 Part 1. Hospital hygiene
   - The student knows the standard precautions to prevent the transmission of microorganisms and can apply them.

3 Part 1. Hospital hygiene
   - The student understands the difference between disinfection and sterilization and knows the specific characteristics, indications, advantages and disadvantages of the various disinfectants and sterilization methods.

4 Part 1. Hospital hygiene
   - The student understands the basic principles of source isolation and knows the transmission route of the main epidemiologically relevant micro-organisms in a hospital.

5 Part 1. Hospital hygiene
   - The student understands the rationale of the main measures to prevent healthcare associated infections, such as CLABSI, CAUTI, VAP and SSI.

6 Part 1. Hospital hygiene
   - The student is aware of the organization of hospital hygiene in Belgium, of the organization of the Central Sterilization Unit and the role of the hospital pharmacist.

7 Part 1. Hospital hygiene
   - The student can give grounded advice (evidence-based if possible) on matters with regard to disinfection and/or sterilization of medical devices (e.g. endoscopes) and disinfection of the environment.

8 Part 1. Hospital hygiene
   - The student can actively participate in the hospital hygiene policy, as a member of the Infection Control Committee, the Medical Pharmaceutical Committee, the Antibiotic Policy Committee and the Committee for Medical Devices.

9 Part 1. Hospital hygiene
   - To participate in the hospital policy bodies with regard to infection control, i.e. the Infection Control Committee, the Medical-Pharmaceutical Committee and the Committee for Medical Material.

    - The student understands the mechanisms of action of the different groups of antibiotics.

    - The student knows the spectrum, the mechanisms of resistance, the general indications and the side effects of antibiotics.

    - The student is familiar with the laboratory techniques used to detect resistance against antibiotics and with the interpretation of the test results.

(Approved)
- The student has insight in the developments of antifungals.

- The student knows the principles of the antibiotic policy of a hospital.

Conditions for credit contract
- Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract
- Access to this course unit via an exam contract is unrestricted

Teaching methods
- Guided self-study, lecture

Learning materials and price
- Part 1.
  Handouts of PowerPoint presentations
  Guidelines of IDSA, CDC, RIVM, HGR (online available at no cost; URL: see handouts)
- Part 2.
  Overhead slides and copies of PowerPoint presentation.

References
1. Ziekenhuishygiène (Gerald Reybrouck, 4e editie, ACCO, Leuven, 2000)
3. Hospital Epidemiology and Infection Control (Mayhall, 4th Ed, Lippincott, Williams & Wilkins, 2012)

Course content-related study coaching
- Discussion forum on website.
- Interactive reply to questions.
- Possibility to ask questions after the lecture, on appointment or via e-mail.

Evaluation methods
- end-of-term evaluation

Examination methods in case of periodic evaluation during the first examination period
- Written examination with open questions

Examination methods in case of periodic evaluation during the second examination period
- Written examination with open questions, oral examination

Examination methods in case of permanent evaluation

Possibilities of retake in case of permanent evaluation
- not applicable

Extra information on the examination methods
- Second exam period:
  Part 1: oral examination
  Part 2: written examination

Calculation of the examination mark

(Approved)