

Curriculum - Academic Year 2018-19
Characteristics of the Course Units

Name	<i>Microbiology</i>
ECTS credits	3
Year / Semester	<i>I/1°</i>
Specific learning outcomes	<p><i>On successful completion of this module students should be able to:</i></p> <ol style="list-style-type: none"> <i>1 – Acquire, articulate, retain and apply specialized language and knowledge relevant to microbiology</i> <i>2 – Recognize the different classes of microorganisms</i> <i>3 – Demonstrate ability to explain and practice safe Microbiological procedures</i> <i>4 – Following an experimental protocol</i> <i>5 – Use serial dilutions to estimate the number of microbes in a sample, use standard microbiology laboratory equipment correctly</i> <i>6 – Communicate scientific concepts, experimental results and analytical arguments in a clear and concise manner.</i> <i>7 – Know various Culture media and their applications and also understand various physical and chemical means of sterilization</i> <i>8 – Know the various Physical and Chemical growth requirements of bacteria and get equipped with various methods of bacterial growth measurement.</i>
Contents	<p><i>Classification of microorganisms in the living world, Role of microorganisms in the transformation of organic matter, Role of microorganisms in diseases, Eukaryotic microorganisms, Prokaryotic microorganisms, Viruses, Morphology and grouping mode, Scheme of the bacterial cell, Inconstant elements.- Constant elements, Bacterial nutrition - Bacterial growth, Culture of bacteria (culture media), Antimicrobial agents (control of microbial growth), Antiseptics and disinfectants, Antibiotics.</i></p>
Teaching and learning methods	<i>Face to face, 67,5 hours</i>
Teaching techniques	<p><i>Lectures, 22,5 hours</i> <i>Practical classes, 45 hours</i></p>
Assessment methods	<p><i>Written and oral.</i></p> <p><i>A mid-term written test and a final-term written test are foreseen.</i></p> <p><i>The mid-term written test will be devoted to the assessment of the level of achievement of LOs 2 to 4</i></p> <p><i>The final term written test will be devoted to the assessment of the level of achievement of LOs 2, 3 and, mainly, 4 to 8.</i></p> <p><i>The oral test will be devoted to the assessment of the student's ability to recognize and assimilate the important role of microorganisms in the environment.</i></p>
Assessment criteria	<p><i>In the mid-term test students should demonstrate their ability to Understand the basic microbial structure and function and study the comparative characteristics of prokaryotes and eukaryotes and also understand the structural similarities and differences among various physiological groups of bacteria/archaea.</i></p> <p><i>In the final term test students will be required to identify the phases of the bacterial growth curve and its characteristics.</i></p> <p><i>In the oral test students should assimilate and emphasize the major role of microorganisms in biogeochemical cycles</i></p> <p><i>Finally, student show his ability to participate in class discussions with teachers and colleagues.</i></p>
Assessment metrics	<i>Attribution of a final grade</i>
Criteria of attribution	<i>The grade goes from 1 (minimum) up to 20 (maximum). The minimum threshold to</i>

of the final grade	<p>pass is 7. To pass the exam students should obtain the minimum evaluation in all the assessments.</p> <p>The final grade will be determined according to the following rules:</p> <ul style="list-style-type: none"> - Mid-term written tests: 20% - written exam: 50% - Practical classes : 30%
Preparatory course units	N.A.
Didactic material	<i>A.Meyer;J.Deiana, A.Bernard, Cours de microbiologie générale avec problèmes et exercices corrigés, Doin, 2eme edition,2008.</i>