

**GENERAL MICROBIOLOGY (MCB 3020)****SYLLABUS****SPRING 2017**

Professor (Dr.) Richardson

Course lectures: Monday and Wednesday 11:00 – 12:15 AHC3-110  
 Office hours: Monday and Wednesday 10:00-11:00 and 12:30-1:30  
 and by appointment Office: AHC1-318A

Text: *Brock Biology of Microorganisms*, Madigan et al., 14th Edition.**NOTE: I will assign subsections for each chapter the week before that lecture.**

<b>Date</b>	<b>Subject</b>	<b>Chapter</b>
Jan 9	Introduction to the course and to microbiology	1
	Cell membrane structure and function	2
Jan 11	Cell wall structure and function	2
<b>Jan 16</b>	<b>Reverend Dr. Martin Luther King Day Holiday</b>	
Jan 18	Cell inclusions, bacterial genetics, microbial motility	2,4,6
Jan 23	Metabolism – growth, oxidation/reduction reactions	3
Jan 25	Fermentation, aerobic respiration	3
Jan 30	Reducing power and ATP; pmf and energy production	3
Feb 1	Growth and the environment	5
Feb 6	Chemotaxis and quorum sensing	7
	Review for exam	
<b>Feb 8</b>	<b>First Midterm Examination</b>	
Feb 13	Viral structure, reproduction and diversity	8,9
Feb 15	Viral diversity, cont.	9
Feb 20	Prokaryotic genetics, microbial evolution	10,11,12
Feb 22	Metabolic diversity - oxygenic and anoxygenic photosynthesis	12,13
Feb 27	Chemolithotrophy and anaerobic respiration	13
Mar 1	Fermentations, bacterial functional diversity	13,14,15
Mar 6	Archaeobacterial functional diversity	16
Mar 8	Environmental microbiology, microbial ecology	18,19
<b>Mar 13/15</b>	<b>Spring Break – no classes</b>	

Mar 20	Microbes and biogeochemical cycles – the C cycle Review for exam	20
<b>Mar 22</b>	<b>Last day to drop the course with DR grade Second Midterm Examination</b>	
Mar 27	Nitrogen fixation, nitrogen and sulfur cycles	3,20
Mar 29	Iron, manganese, mercury cycles and bioremediation	20,21
April 3	Microbial symbioses with plants	22
April 5	Microbial symbioses with animals	22
April 10	Microbial interactions with humans, pathogenicity	23
April 12	Toxins, immunity and immune mechanisms	23,24,25
April 17	Clinical microbiology and antimicrobial compounds	27
April 19	Epidemiology and microbial pathogens Review for final	28-32
April XX	<b>Final Examination - to be determined</b>	

### ***Grading policy***

Non PLTL students: Your final grade will be based on the average of the three exams and your Clicker points. Each exam is 25% of your grade (for a total of 75%) and the Clicker points are the remaining 25%.

PLTL students: Your average score will be calculated as above and will count as 90% of your grade. Your PLTL grade will count for the remaining 10% of your final grade.

Note: your PLTL grade can only help you, not hurt you. **There is no extra credit.**

<i>Grading scale</i>	A	90 - 100%
	B+	88 - 89
	B	83 - 87
	B-	80 - 82
	C+	78 - 79
	C	70 - 77
	D+	68 - 69
	D	63 - 67
	D-	60 - 62
	F	59 or below

***Makeup exams*** Makeup exams will only be given with permission from the instructor. All makeup exams will be in essay format – no exceptions.

***Academic Misconduct*** - Academic Misconduct includes stealing exams, selling exams, buying exams, copying or trading answers during exams, and any other form of cheating. The following is FIU policy: "Florida International University is a

community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly to demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook."

*Course description:* **Introduction to the study of microorganisms including cell structure/function, physiology, diversity, ecology and pathogenicity.**

*Course objectives:* **To impart knowledge of the biology of microorganisms and major disciplines within the field of microbiology.**

*Learning outcomes:* **To gain an understanding of the field of microbiology and the roles microorganisms play in the environment, health, and disease.**