جامعة الملك عبدالله
للعلوم والتقنية
King Abdullah University of
Science and Technology

Course Syllabus: Fundamentals of Molecular Microbiology - B 211

Division	Biological and Environmental Sciences & Engineering Division
Course Number	B 211
Course Title	Fundamentals of Molecular Microbiology
Academic Semester	Fall
Academic Year	2019/2020
Semester Start Date	08/25/2019
Semester End Date	12/10/2019
Class Schedule (Days & Time)	10:30 AM - 12:00 PM | Sun Tue

Instructor(s)

Name	Email	Phone	Office Location	Office Hours
Arnab Pain	Arnab.Pain@Kaust.edu.sa	+966128082561	4236, 2, Ibn Al-Haytham (bldg. 2)	Weekdays (9 am - 6 pm) @ Rm - 4236, Level - 4, Building - 2

Teaching Assistant(s)

Name	Email
Dr Zineb Rchiad	zineb.rchiad@kaust.edu.sa

Course Information

Comprehensive Course Description	The course is designed to provide introductory concepts on fundamentals of microbiology. The course covers basic knowledge on molecular ecology and biology of microorganisms, microbial biodiversity, microbial diseases. In the end, a series of practical sessions will also be included to provide students with some basisc skills in molecular microbiology.
Course Description from Program Guide	This course is designed to provide introductory concepts on fundamentals of microbiology. This course covers basic knowledge on molecular biology of microorganisms, microbial bio-diversity, microbial diseases. In the end, a series of practical sessions will also be included to provide students with basic skills in molecular microbiology
Goals and Objectives	- To introduce basic concepts of microbiology - Basic molecular biology of microorganisms - Understanding of diversity of the microbial world - Concepts of microbial diseases, pathogens and epidemiology
Required Knowledge	Understanding of basic cell biology and microbes.
Reference Texts	Biology of Microorganisms by Thomas D. Brock (ISBN-13: 978-0321897398; ISBN-10: 0321897390) Additional references will be supplied during lectures
Method of evaluation	**30.00**% - Midterm exam **25.00**% - Group Project(s) **40.00**% - Final exam **5.00**% - Active participation
Nature of the assignments	- Group projects (laboratory practicals) - Presentations on group projects

Course Policies	Students will be required to attend the theoretical and practical classes and failure to do so may require a prior consent from the instructor and making some alternative arrangements in consultation with the course instructor. Unauthorised absences except for medical or other emergencies will not be allowed. Final grading will be based on your overall performance relatve to your peers and overall attendance and active participation during the lectures and practical classes.
Additional Information	If needed, a few additional tutorial sessions may be arranged in discussion with the students while scheduling those sessions to maximise attendance.

Tentative Course Schedule

(Time, topic/emphasis & resources)

Week	Lectures	Topic
1	Sun 08/25/2019 Tue 08/27/2019	Fundamentals of Microbiology (jointly with EnSE203)
2	Sun 09/01/2019 Tue 09/03/2019	Energetics, genetics and information flow (jointly with EnSE203)
3	Sun 09/08/2019 Tue 09/10/2019	Bacterial diversity, bacterial populations relevant to nutrient cycles in environmental systems (jointly with EnSE203)
4	Sun 09/15/2019 Tue 09/17/2019	Introduction on cultivation-dependent and molecular-based approaches (jointly with EnSE203)
5	Sun 09/22/2019 Tue 09/24/2019	Mid-term exam (jointly with EnSE203)
6	Sun 09/29/2019 Tue 10/01/2019	Molecular biology of microorganisms , microbial genomics
7	Sun 10/06/2019 Tue 10/08/2019	Diversity in the microbial world and microbial evolution and systematics
8	Sun 10/13/2019 Tue 10/15/2019	Microbial diseases
9	Sun 10/20/2019 Tue 10/22/2019	Diagnosis and tracking of microbes
10	Sun 10/27/2019 Tue 10/29/2019	Lab practical on molecular microbiology - I
11	Sun 11/03/2019 Tue 11/05/2019	Lab practical on molecular microbiology - II
12	Sun 11/10/2019 Tue 11/12/2019	Lab practical on molecular microbiology - III
13	Sun 11/17/2019 Tue 11/19/2019	Lab practical on molecular microbiology - IV
14	Sun 11/24/2019 Tue 11/26/2019	Lab practical on molecular microbiology - V
15	Sun 12/01/2019 Tue 12/03/2019	Lab practical on molecular microbiology - VI
16	Sun 12/08/2019 Tue 12/10/2019	Group presentations - I & II

Note

The instructor reserves the right to make changes to this syllabus as necessary.