

COURSE SYLLABUS FORM

**American University of Beirut
Faculty of Arts and Sciences
Department BIOLOGY**

Course Number and Title: 390E MICROBIAL GENETICS

1. Course Learning Outcomes

Students completing the graduate course should be able to:
solve problems in bacterial genetics; develop a comprehension of bacterial genetics including the organisation and activation of genes; understand and apply a genetic approach to biology's basic questions; read, understand and critically evaluate scientific research papers published in leading international journals; identify areas which require further investigation and for which a genetic approach can be designed and pursued; design laboratory experiments in bacterial genetics; write and submit a grant proposal to seek funds for research in this area and present up-to-date published research findings to a specialised audience.

2. Resources Available to Students

Reference Book	Title:	Microbial Genetics
	Authors:	Stanley R Maloy, John E Cronan, Jr and David Freifelder
	Edition:	Second (1987)
	Publisher:	Jones and Bartlett Publishers, Inc.

Plus AUB Journals

3. Grading Criteria

Mid-term exam	20%
Final exam	30%
Presentations (2)	20%
A grant proposal	20%
Attendance and Evaluation	10%

4. Schedule

Course Schedule

Week	Topic	Activities
1	Basics in <i>E. coli</i> genetics	Lectures
1-2	P1 transduction/ Applications	Lectures
3	Hfr mating/ Applications	Lectures
4-6	Cell Division: Genetics and Molecular Biology	Lectures
7	Transcription Factors	Lectures
8-10	Regulatory Networks in <i>E. coli</i> The SOS response	Lectures Lectures
	The heat-shock response	Lectures
	Stationary phase control	Lectures
	The stringent control	Lectures
11	Experimental design	Lectures
12-14	Student presentations	presentations/ discussions

5. Course Policy (if any)

- 5.1.** Students missing more than 1/5 of lectures or laboratory sessions are subject to being dropped out of the course.
- 5.2.** There will be no make-up exams as a matter of policy. A student who misses an exam forgoes their right to the percentage of the exam. Only in exceptional circumstances (only reports from the infirmary or the AUH are considered in case of ill-health), could an allowance be made. The nature of any alternative arrangement will be up to the tutor and in such a case the final grade of the student will be subject to evaluation by the tutor in the interest of fairness to all.