



Philadelphia University
Department of Biotechnology and genetic Engineering

Matrix Correlating Program Taught Obligatory Courses and Learning Outcomes

Obligatory Courses Taught in the Program	Learning Outcomes														
	Knowledge and Understanding						Intellectual Skills	Professional and Practical Skills					General and Transferable Skills		
	K1	K2	K3	K4	K5	K6	I1	P1	P2	P3	P4	P5	T1	T2	T3
General Biology I	✓	✓	✓			✓	✓								✓
General Biology Practical I	✓		✓				✓	✓		✓			✓	✓	
General biology II	✓	✓	✓				✓								✓
General Biology Practical II	✓		✓				✓	✓		✓			✓	✓	
Microbiology	✓				✓		✓				✓				✓

Microbiology Lab	✓	✓				✓		✓	✓		✓	✓	✓	✓	✓	
Genetics	✓	✓	✓	✓		✓		✓		✓	✓	✓				
Genetics Lab		✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	
Cell Biology	✓		✓					✓								
Human Genetics	✓	✓	✓	✓				✓		✓				✓		
Plant biotechnology	✓	✓	✓	✓	✓	✓		✓		✓		✓				
Plant tissue Culture	✓	✓	✓					✓	✓		✓	✓		✓	✓	✓
Cytogenetics	✓		✓	✓				✓		✓		✓				
Cytogenetics Lab	✓		✓	✓				✓	✓	✓		✓	✓	✓	✓	✓
Immunology	✓							✓					✓			
Immunology Lab	✓							✓	✓		✓	✓		✓	✓	✓
Biochemistry	✓							✓								
Biochemistry Lab	✓							✓	✓		✓			✓	✓	✓

Molecular Biology	✓	✓	✓		✓		✓								
Molecular Biology Lab	✓	✓	✓		✓		✓	✓		✓	✓		✓	✓	✓
Environmental Biotechnology	✓	✓	✓		✓		✓	✓		✓	✓		✓	✓	
Entrepreneurship in Biotechnology	✓	✓	✓		✓		✓				✓			✓	✓
Microbial biotechnology	✓	✓	✓		✓		✓	✓		✓	✓		✓	✓	✓
Pharmaceutical Biotechnology	✓	✓	✓		✓		✓								✓
Applied Molecular Biology	✓	✓	✓		✓		✓		✓					✓	
Applied Molecular Biology Lab	✓	✓	✓		✓		✓	✓	✓	✓	✓		✓		✓
Bioinformatics	✓	✓	✓			✓	✓			✓	✓	✓		✓	
Animal Biotechnology	✓	✓	✓				✓								
Animal Tissue Culture	✓	✓	✓				✓	✓	✓	✓	✓		✓	✓	✓
Quality Control and Lab Management		✓					✓	✓			✓			✓	
Ethics in Biotechnology	✓	✓	✓		✓		✓	✓	✓	✓	✓			✓	

Protein Biotechnology	✓	✓	✓				✓				✓				
Field Training	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Graduation project	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓