



EGYPTIAN NATIONAL UNIVERSITIES

مشروع إنشاء الجامعات المصرية الأهلية

جامعة العلمين الدولية

ALALAMEIN INTERNATIONAL UNIVERSITY

**Molecular Biotechnology Program****برنامج التكنولوجيا الحيوية الجزيئية****Study Plan****الخطة الدراسية**

Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
1	GES111	Physical Geology	2	2	1	0	5	3	165	6
	BIO131	Biology I	2	2	0	0	4	3	150	6
	CHE111	Organic Chemistry	2	2	0	0	4	3	150	6
	PHY111	Physics I	2	2	0	0	4	3	150	6
	MAT111	Mathematics I	3	0	1	0	4	3	150	6
	UC1	University Requirement (1)	2	0	0	0	2	2	90	4
							<b>23</b>	<b>17</b>	<b>840</b>	<b>34</b>
2	BIO119	Laboratory Safety and good laboratory practice	1	2	0	0	3	2	105	4
	CHE141	Physical Chemistry	2	2	0	0	4	3	150	6
	MAT112	Mathematics II	3	0	1	0	4	3	150	6
	MAT131	Probability and Statistics I	2	1	2	0	5	2	105	4
	E1	Elective Course (1)	2	2	0	0	4	3	150	6
	UC2	University Requirement (2)	2	0	0	0	2	2	90	4
	UC3	University Requirement (3)	2	0	0	0	2	2	90	4
							<b>24</b>	<b>17</b>	<b>840</b>	<b>34</b>
3	BIO241	Biology II	2	2	0	0	4	3	150	6
	CHE221	Inorganic Chemistry	2	2	0	0	4	3	150	6
	PHY211	Physics II	2	2	0	0	4	3	150	6



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	UC4	University Requirement (4)	2	0	0	0	2	2	90	4
	UC5	University Requirement (5)	2	0	0	0	2	2	90	4
	UE1	Elective University (1)	2	0	0	0	2	2	90	4
								<b>18</b>	<b>15</b>	<b>720</b>
4	CSE014	Structure Programming	2	3	0	0	5	3	150	6
	BIO317	Introduction to biotechnology	2	2	0	0	4	3	150	6
	E2	Elective Course (2)	2	2	0	0	4	3	150	6
	E3	Elective Course (3)	1	2	0	0	3	2	105	4
	E4	Elective Course (4)	1	2	0	0	3	2	105	4
	UC6	University Requirement (6)	2	0	0	0	2	2	90	4
	UE2	Elective University (2)	2	0	0	0	2	2	90	4
							<b>23</b>	<b>17</b>	<b>840</b>	<b>38</b>
5	BIO318	Bioinformatics	2	2	0	0	4	3	150	6
	BIO221	Molecular Biology I	2	2	0	0	4	3	150	6
	BIO321	Microbial biotechnology	1	2	0	0	3	2	105	4
	E5	Elective Course (5)	1	2	0	0	3	2	105	4
	E6	Elective Course (6)	1	2	0	0	3	2	105	4
	E7	Elective Course (7)	2	2	0	0	4	3	150	6
	UC7	University Requirement (7)	2	0	0	0	2	2	90	4
							<b>23</b>	<b>17</b>	<b>855</b>	<b>38</b>
5	BIO311	Molecular Biology II	2	2	0	0	4	3	150	6
	BIO324	Plant biotechnology	1	2	0	0	3	2	105	4
	ENV311	Environmental biotechnology	1	2	0	0	3	2	105	4
	E8	Elective Course (8)	1	2	0	0	3	2	105	4
	E9	Elective Course (9)	1	2	0	0	3	2	105	4



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	E10	Elective Course (10)	2	2	0	0	4	3	150	6
	UE3	Elective University (3)	2	0	0	0	2	2	90	4
								<b>22</b>	<b>16</b>	<b>810</b>
7	BIO418	Molecular genetics	2	2	0	0	4	3	150	6
	BIO420	Genetic engineering	2	2	0	0	4	3	150	6
	BIO425	Molecular immunology	2	2	0	0	4	3	150	6
	BIO426	Stem cell biology	1	2	0	0	3	2	105	4
	BIO427	Computational biochemistry	1	2	0	0	3	2	105	4
	BIO428	Practical Training and Internship	2	4	0	0	6	4	210	8
							<b>24</b>	<b>17</b>	<b>870</b>	<b>34</b>
8	BIO429	Nano-Biotechnology	2	2	0	0	4	3	150	6
	BIO419	Graduation Project	2	4	0	0	6	4	210	8
	BIO431	Recombinant DNA technology	2	2	0	0	4	3	150	6
	BIO432	Industrial biotechnology	1	2	0	0	3	2	105	4
	BIO433	Cell culture principles and techniques	1	2	0	0	3	2	105	4
	BIO435	Animal biotechnology	1	2	0	0	3	2	105	4
							<b>23</b>	<b>16</b>	<b>825</b>	<b>32</b>
							<b>180</b>	<b>132</b>	<b>6600</b>	<b>264</b>



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### Elective (E1, E2)

BIO132	Developmental Biology
ENV111	Environmental Biology
PHY221	Introduction to Nanoscience
PHY261	Biophysics

### Elective (E3, E4, E5)

BIO231	Vertebrates
BIO242	Paleobotany
BIO319	Journal club
ENV211	Principles of Ecology
CHE231	Quality control
CHE241	Renewable energy and sustainability
CHE318	Scientific writing

### Elective (E6, E8, E9)

BIO320	Gene therapy
BIO322	Cellular structure & cell communication
BIO323	Bio-farming
BIO436	Transgenics

### Elective (E7, E10)

BIO430	Tissue engineering
BIO434	Biotechnological applications in food industry
CHE425	Molecular modeling and simulation
CHE433	Nanoscale sensors and biosensors
BIO495	Special Topic