



EGYPTIAN NATIONAL UNIVERSITIES

مشروع وإنشاء الجامعات المصرية الأهلية

**جامعة العلمين الدولية**  
ALALAMEIN INTERNATIONAL UNIVERSITYAl Alamein  
International University**Biomedical Engineering Program****برنامج الهندسة الطبية الحيوية****Study Plan****الخطط الدراسية**

Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
1	MEC011	Engineering Drawing (1)	1	2	3	0	6	3	180	6
	PHY111	Physics I	2	2	0	0	4	3	150	6
	MAT111	Mathematics I	3	1	0	0	4	3	150	6
	MAT122	Statics	2	2	0	0	4	3	150	6
	UC1	University Requirement (1)	2	0	0	0	2	2	90	4
	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>18</b>	<b>900</b>	<b>36</b>
2	MEC012	Engineering Drawing (2)	1	2	3	0	6	3	180	6
	MEC041	Production Engineering	2	3	0	0	5	3	165	6
	CHE142	Engineering Chemistry	2	2	0	0	4	3	150	6
	PHY321	Crystallography & bonding	1	2	0	0	3	2	105	4
	MAT112	Mathematics II	2	2	0	0	4	3	150	6
	MAT121	Dynamics	2	2	0	0	4	3	150	6
							<b>26</b>	<b>17</b>	<b>900</b>	<b>34</b>
3	MEC151	Thermal Energy	2	0	2	0	4	3	150	6
	ELE113	Electrical drawing	1	3	2	0	6	3	180	6
	PHY211	Physics II	2	2	0	0	4	3	150	6



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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
	MAT211	Mathematics III	2	2	0	0	4	3	150	6
	UC4	University Requirement (4)	2	0	0	0	2	2	90	4
	UC5	University Requirement (5)	2	0	0	0	2	2	90	4
							<b>22</b>	<b>16</b>	<b>810</b>	<b>32</b>
4	MEC111	Mechanical Engineering Drawing	1	2	3	0	6	3	180	6
	MEC131	Metallurgy & Material Testing	3	1	1	0	5	3	165	6
	ELE111	Electrical Circuits	3	1	2	0	6	4	210	8
	ELE112	Electronic circuits	2	1	2	0	5	3	165	6
	MAT211	Mathematics III	2	2	0	0	4	3	150	6
							<b>26</b>	<b>16</b>	<b>870</b>	<b>32</b>
5	MEC121	Manufacturing Technology	2	3	0	0	5	3	165	6
	MEC251	Fluid Mechanics	2	1	2	0	5	3	165	6
	MEC252	Heat & Mass Transfer	2	1	2	0	5	3	165	6
	MEC253	Thermodynamics	2	1	2	0	5	3	165	6
	ELE271	Electrical Machines	3	1	1	0	5	3	165	6
	MAT313	Differential Equations & Numerical Analysis	3	2	0	0	5	4	195	8
							<b>30</b>	<b>19</b>	<b>1020</b>	<b>38</b>
6	ELE211	Electromagnetic Fields	3	1	1	0	5	3	165	6
	ELE212	Electrical Measurements & Measuring Instruments	2	2	1	0	5	3	165	6
	ELE232	Fundamentals of Communication Systems	2	1	2	0	5	3	165	6
	BME211	Structure & Function of the Body	2	1	0	0	3	2	105	4
	BME213	Biochemistry	2	1	1	0	4	2	120	4
	CSE014	Structured Programming	3	3	0	0	6	3	180	6
							<b>28</b>	<b>16</b>	<b>900</b>	<b>32</b>
	BME312	Biomedical Engineering Design	3	0	1	0	4	3	150	6



Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
7	BME313	Introduction to Bio Engineering	2	1	1	0	4	2	120	4
	BME321	Magnetic Resonance Imaging	3	1	1	0	5	3	165	6
	BME322	System Psychology & Biomechanics	3	1	1	0	5	3	165	6
	E1	Elective Course (1)	3	1	0	0	4	3	150	6
	UE1	Elective University (1)	2	0	0	0	2	2	90	4
							<b>24</b>	<b>16</b>	<b>840</b>	<b>32</b>
8	ELE312	Analog Circuits	3	2	2	0	7	4	225	8
	BME315	Biomedical Systems Analysis	3	1	0	0	4	3	150	6
	BME321	Magnetic Resonance Imaging	3	1	1	0	5	3	165	6
	BME323	Modern Optical Microscopy & Imaging	3	1	1	0	5	3	165	6
	BME391	Industrial Project	1	6	0	0	7	3	195	6
	UE2	Elective University (2)	2	0	0	0	2	2	90	4
							<b>30</b>	<b>18</b>	<b>990</b>	<b>36</b>
9	ELE322	Advanced Semiconductor Devices	2	1	1	0	4	2	120	4
	BME491	Graduation project 1	1	6	0	0	7	3	195	6
	E2	Elective Course (2)	3	1	1	0	5	3	165	6
	E2	Elective Course (2)	3	1	1	0	5	3	165	6
	E2	Elective Course (2)	3	1	1	0	5	3	165	6
							<b>26</b>	<b>14</b>	<b>810</b>	<b>28</b>
10	BME492	Graduation project 2	1	6	0	0	7	3	195	6
	E2	Elective Course (2)	3	1	1	0	5	3	165	6
	E2	Elective Course (2)	3	1	1	0	5	3	165	6
	UC6	University Requirement (6)	2	0	0	0	2	2	90	4
	UC7	University Requirement (7)	2	0	0	0	2	2	90	4
	UE3	Elective University (3)	2	0	0	0	2	2	90	4



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							23	15	795	30
							259	165	8835	330

### Elective (E1)

- MEC231 Engineering economy  
BME333 Microbiology & Immunity

### Elective (E2)

- BME222 Biomechanics 2: Biological Tissues  
BME224 Introduction to Medical Imaging  
BME311 Biomedical Sensors  
BME321 Magnetic Resonance Imaging  
BME322 System Psychology & Biomechanics  
BME323 Modern Optical Microscopy & Imaging  
BME324 Intermediate Fluid mechanics  
BME325 Biomaterials & Medical Devices  
BME326 Intro to Biomedical Signals & Electrical Circuits  
BME421 Bio Regenerative Engineering  
BME422 Regenerative Engineering Applications