



**Majmaah University**  
**College of Education- in Zulfi**  
**Females Departments**  
**Physics Department.**

**The Study Plan of B.Ed. Program in Physics.**

## The Study Plan of B.Ed. Program in Physics.

### 1- Compulsory and Elective Requisites

Requisite	Type of Requisite	Credit Hours	Percentage of Credit Hours by Total.	ECTS	Percentage of Credit Hours by Total.	Observations
University	Compulsory	-	-	-	-	-
	Elective	12	8.33	20	8.33	-
College	General Compulsory	32	22.22	53.5	22.29	-
	Science Departments Compulsory	6	4.17	10	4.17	Physics- Mathematics- Chemistry- Computer Science Departments
Department	Compulsory	90	62.5	150	62.5	-
	Elective	4	2.77	6.5	2.70	-
Total hours and percentage		144	100 %	240	100 %	-

## 2- University Requisites

Course Code	Course Number	Course	Credit Hours	Pre-requisite	Observations
SALM	101	Introduction to Islamic Culture	(2+0+0)2	-----	Selecting 3 from 4
SALM	102	Islam and Building Society	(2+0+0)2	-----	
SALM	103	Economical system in Islam	(2+0+0)2	-----	
SALM	104	Foundations of Political System in Islam	(2+0+0)2	-----	
ARAB	101	Linguistic Skills	(2+0+0)2	-----	Selecting 1 from 2
ARAB	102	Arabic Editing	(2+0+0)2	-----	
ENG	101	English Language	(2+0+0)2	-----	Selecting 2 from 7
FCH	101	Family and Childhood	(2+0+0)2	-----	
SOCI	101	Contemporary Societal Issues	(2+0+0)2	-----	
VOW	101	Volunteer Work	(2+0+0)2	-----	
LHR	101	Systems and Human Rights	(2+0+0)2	-----	
ENT	101	Leading Businesses	(2+0+0)2	-----	
HAF	101	Health and Fitness Basics	(2+0+0)2	-----	

3- Compulsory College Requisites				
Course Code	Course Number	Course	Credit Hours	Pre-requisite
EDU	116	Teaching Techniques and Communications Skills	(2+0+0)2	-
EDU	117	Fundamentals of Islamic Education	(2+0+0)2	-
EDU	118	The System and Policy of Education in KSA	(2+0+0)2	-
EDU	126	Developmental Psychology	(2+0+0)2	
EDU	216	Psychological Health	(2+0+0)2	EDU 126
EDU	217	Principles of Educational Research	(2+0+0)2	
EDU	226	Educational Psychology	(2+0+0)2	EDU 126
EDU	316	Administration and Educational planning	(2+0+0)2	
EDU	317	Production of E-learning resources	(2+0+0)2	EDU 116
EDU	326	Teaching Strategies	(2+0+0)2	
EDU	327	Educational Curricula	(2+0+0)2	
EDU	416	Modern Trends in Teaching Strategy	(2+0+0)2	EDU 326
EDU	417	Educational Evaluation	(2+0+0)2	
EDU	427	Practicum	(0+0+12) 6	120 Successful Hours. EDU 416 EDU 417

4- Compulsory Department Requisites				
Course Code	Course Number	Course	Credit Hours	Pre-requisite
<b>MATH</b>	111	Calculus (1)	(1+1+0)2	
<b>CHEM</b>	111	General Chemistry (1)	(1+1+0)2	
<b>PHYS</b>	111	General Physics (1)	(1+1+0)2	
<b>PHYS</b>	121	Mathematical Physics (1)	(3+1+0)4	MATH111
<b>PHYS</b>	122	Classical Mechanics (1)	(2+1+0)3	PHYS 111
<b>PHYS</b>	123	General Physics (2)	(2+1+0)3	
<b>PHYS</b>	124	Optics	(3+0+0)3	
<b>PHYS</b>	126	Optics Lab.	(0+1+0)1	
<b>PHYS</b>	212	Mathematical Physics (2)	(2+1+0)3	PHYS 121
<b>PHYS</b>	213	General Physics (3)	(2+1+0)3	PHYS 123
<b>PHYS</b>	214	Thermodynamics	(3+0+0)3	PHYS 123
<b>PHYS</b>	215	Classical Mechanics (2)	(2+1+0)3	PHYS 122
<b>PHYS</b>	221	Mathematical Physics (3)	(2+1+0)3	PHYS 212
<b>PHYS</b>	222	Electricity and Magnetism (1)	(3+1+0)4	PHYS 123
<b>PHYS</b>	223	Wave motion and Vibrations	(2+1+0)3	PHYS 121 PHYS 123
<b>PHYS</b>	224	Modern Physics	(3+1+0) 4	PHYS 123
<b>PHYS</b>	311	Quantum Mechanics (1)	(3+0+0)3	PHYS 215 PHYS 224
<b>PHYS</b>	312	Electricity and Magnetism (2)	(3+1+0)4	PHYS 222
<b>PHYS</b>	313	Electronics (1)	(2+1+0)3	
<b>PHYS</b>	314	Electrodynamics	(3+1+0)4	
<b>PHYS</b>	321	Statistical Physics	(3+0+0)3	PHYS 214
<b>PHYS</b>	322	Quantum Mechanics (2)	(3+0+0)3	PHYS 311
<b>PHYS</b>	323	Solid State Physics (1)	(2+1+0)3	PHYS 224
<b>PHYS</b>	324	Electronics (2)	(2+1+0)3	PHYS 313
<b>PHYS</b>	411	Computational Physics (1)	(2+1+0)3	PHYS 321
<b>PHYS</b>	412	Solid State Physics (2)	(2+1+0)3	PHYS 323
<b>PHYS</b>	413	Atomic and Molecular Spectra	(3+1+0)4	PHYS 324 PHYS 322
<b>PHYS</b>	415	Nuclear Physics (1)	(3+1+0)4	PHYS 322 PHYS 321
<b>PHYS</b>	421	Computational Physics (2)	(2+1+0)3	PHYS 411
<b>PHYS</b>	423	Nuclear Physics (2)	(3+1+0)4	PHYS 415
<b>PHYS</b>	424	Laser Physics and its Applications	(2+1+0)3	PHYS 413

## 5- Elective Department Requisites

Course Code	Course Number	Course	Credit Hours	Pre-requisite
<b>PHYS</b>	380	Environment Radiation Physics	(2+0+0)2	-
<b>PHYS</b>	381	Spectrum Analysis Physics	(2+0+0)2	-
<b>PHYS</b>	382	Molecular Motion Physics	(2+0+0)2	-
<b>PHYS</b>	383	Devices Physics	(2+0+0)2	-
<b>PHYS</b>	384	Modeling and Simulation Physics	(2+0+0)2	-
<b>PHYS</b>	385	Advanced Electrodynamics	(2+0+0)2	-
<b>PHYS</b>	386	Physics of Materials Science	(2+0+0)2	-
<b>PHYS</b>	387	Nanotechnology Physics	(2+0+0)2	-
<b>PHYS</b>	388	Astronomy Physics	(2+0+0)2	-
<b>PHYS</b>	389	Earth Physics	(2+0+0)2	-
<b>PHYS</b>	390	Nuclear Medical Physics	(2+0+0)2	-
<b>PHYS</b>	391	Biophysics	(2+0+0)2	-
<b>PHYS</b>	393	Health Physics	(2+0+0) 2	-
<b>PHYS</b>	395	Plasma Physics	(2+0+0)2	-
<b>PHYS</b>	396	Accelerator Physics	(2+0+0)2	-
<b>PHYS</b>	397	Neutrons and Reactor Physics	(2+0+0)2	-
<b>PHYS</b>	398	Elementary Particle Physics	(2+0+0)2	-
<b>PHYS</b>	399	Energy Physics	(2+0+0)2	-

## 6- Suggested distribution of courses on levels

Levels	Course Number and Code	Course	Credit Hours	Requisites	
				Former	Simultaneous
1 <sup>st</sup> Level	SALM 10*	Islamic Requisites	(2+0+0) 2	-	-
	ARAB 102	Arabic Requisites	(2+0+0) 2	-	-
	***	University Requisites	(2+0+0) 2	-	-
	EDU 116	Teaching Techniques and Communications Skills	(2+0+0) 2	-	-
	EDU 117	Fundamentals of Islamic Education	(2+0+0) 2	-	-
	EDU 118	The System and Policy of Education in KSA	(2+0+0) 2	-	-
	CHEM 111	General Chemistry (1)	(1+1+0)2	-	-
	MATH 111	Calculus (1)	(1+1+0)2	-	-
	PHYS 111	General Physics (1)	(1+1+0)2	-	-
<b>Total</b>			<b>18</b>		
2 <sup>nd</sup> Level	SALM 10*	Islamic Requisites	(2+0+0) 2		-
	EDU 126	Developmental Psychology	(2+0+0) 2		-
	PHYS 121	Mathematical Physics (1)	(3+1+0)4	MATH 111	-
	PHYS 122	Classical Mechanics (1)	(2+1+0)3	PHYS 111	-
	PHYS 123	General Physics (2)	(2+1+0)3		-
	PHYS 124	Optics	(3+0+0)3		PHYS 126
	PHYS 126	Optics Lab.	(0+1+0)1		PHYS 124
	<b>Total</b>			<b>18</b>	

	Course	Course	Credit	Requisites	
	Number and Code		Hours	Former	Simultaneous
3 <sup>rd</sup> Level	SALM 10*	Islamic Requisites	(2+0+0) 2	-	-
	EDU 216	Psychological Health	(2+0+0) 2	EDU 126	-
	EDU 217	Principles of Educational Research	(2+0+0) 2	-	-
	PHYS 212	Mathematical Physics (2)	(2+1+0)3	PHYS 121	-
	PHYS 213	General Physics (3)	(2+1+0)3	PHYS 123	PHYS 214
	PHYS 214	Thermodynamics	(3+0+0)3		PHYS 213
	PHYS 215	Classical Mechanics (2)	(2+1+0)3	PHYS 122	
<b>Total</b>			<b>18</b>		
	Course	Course	Credit	Requisites	
	Number and Code		Hours	Former	Simultaneous
4 <sup>th</sup> Level	***	University Requisites	(2+0+0) 2		-
	EDU 226	Educational Psychology	(2+0+0) 2	EDU 126	-
	PHYS 221	Mathematical Physics (3)	(2+1+0)3	PHYS 212	PHYS 223
	PHYS 222	Electricity and Magnetism (1)	(3+1+0)4	PHYS 111	-
	PHYS 223	Wave motion and Vibrations	(2+1+0)3	PHYS 121 PHYS 123	PHYS 221
	PHYS 224	Modern Physics	(3+1+0)4	PHYS 123	-
<b>Total</b>			<b>18</b>		



	Course	Course	Credit	Requisite	
	Number and Code		Hours	Former	Simultaneous
<b>5<sup>th</sup> Level</b>	EDU 316	Administration and Educational planning	(2+0+0) 2	-	-
	EDU 317	Production of E-learning Resources	(2+0+0) 2	EDU 116	-
	PHYS 311	Quantum Mechanics (1)	(3+0+0)3	PHYS 224	-
	PHYS 312	Electricity and Magnetism (2)	(3+1+0)4	PHYS 222	PHYS 314
	PHYS 313	Electronics (1)	(2+1+0)3		-
	PHYS 314	Electrodynamics	(3+1+0)4		PHYS 313
	<b>Total</b>			<b>18</b>	
	Course	Course	Credit	Requisites	
	Number and Code		Hours	Former	Simultaneous
<b>6<sup>th</sup> Level</b>	EDU 326	Teaching Strategies	(2+0+0) 2	EDU 316	-
	EDU 327	Educational Curricula	(2+0+0) 2	EDU 317	-
	PHYS ***	Elective course	(2+0+0) 2	-	-
	PHYS 324	Electronics 2	(2+1+0)3	PHYS 311	-
	PHYS 322	Quantum Mechanics 2	(3+0+0)3	PHYS 121	-
	PHYS 321	Statistical Physics	(3+0+0)3	PHYS 214	-
	PHYS 323	Solid State Physics (1)	(2+1+0)3	PHYS 224	-
<b>Total</b>			<b>18</b>		

	Course	Course	Credit	Requisites	
	Number and Code		Hours	Former	Simultaneous
<b>7<sup>th</sup> Level</b>	EDU 416	Modern Trends in Teaching Strategy	(2+0+0) 2	EDU 326	-
	EDU 417	Educational Evaluation	(2+0+0) 2	EDU 327	-
	PHYS 411	Computational Physics (1)	(2+1+0)3	PHYS 321	-
	PHYS 412	Solid State Physics (2)	(2+1+0)3	PHYS 323	-
	PHYS 413	Atomic and molecular Spectra	(3+1+0)4	PHYS 324 PHYS 322	-
	PHYS 415	Nuclear Physics (1)	(3+1+0)4	PHYS 322 PHYS 321	-
	<b>Total</b>			<b>18</b>	
	Course	Course	Credit	Requisites	
	Number and Code		Hours	Former	Simultaneous
<b>8<sup>th</sup> Level</b>	EDU 427	Practicum	(0+0+12)6	EDU 416 EDU 417	-
	PHYS ***	Elective course	(2+0+0)2	-	-
	PHYS 421	Computational Physics (2)	(2+1+0)3	PHYS 411	-
	PHYS 423	Nuclear Physics (2)	(3+1+0)4	PHYS 415	-
	PHYS 424	Laser Physics and its Applications	(2+1+0)3	PHYS 413	-
	<b>Total</b>			<b>18</b>	