

الجمهورية العربية السورية

جامعة ابي



كلية العلوم

قسم الفيزياء التطبيقية

THE APPLIED PHYSICS PROGRAM

(الخطة الدراسية)



الخطة الدراسية – قسم الفيزياء التطبيقية – كلية العلوم

First Year : First Semester							
Courses Titles		Code / No	Contact Hours			Credit Hours	Pre-Requested
			Lecture	Practical	Tutorial		
1	Islamic Culture		3			3	
2	Arabic Language (1)		2		1	3	
3	English Language (1)		2		1	3	
4	Physics (1) (Mechanics)		2		1	3	
5	Physics (1) Laboratory			3		1	
6	Calculus (1)		2		1	3	
Total						16	

First Year : Second Semester							
Courses Titles		Code / No	Contact Hours			Credit Hours	Pre-Requested
			Lecture	Practical	Tutorial		
1	Introduction to Computer		3			3	
2	Arabic Language (2)		2		1	3	
3	English Language (2)		2		1	3	
4	Physics (2) (Electricity and Magnetism)		2		1	3	
5	Physics (2) Laboratory			3		1	
6	Calculus (2)		2		1	3	
Total						16	

الخطة الدراسية – قسم الفيزياء التطبيقية – كلية العلوم

Second Year: First Semester							
Courses Titles		Code / No	Contact Hours			Credit Hours	Pre-Requested
			Lecture	Practical	Tutorial		
1	English for Science		2		1	3	
2	General Chemistry		2	2		3	
3	Mathematical Physics (1)		2			2	
4	Thermal & Physical Properties of Matter		2	2		3	
5	Optics and Waves		2	2		3	
6	Energy & Environment		1	2		2	
7	Management & Accounting Principles		2			2	
Total						18	

Second Year : Second Semester							
Courses Titles		Code / No	Contact Hours			Credit Hours	Pre-Requested
			Lecture	Practical	Tutorial		
1	English for Physics		2		1	3	
2	Research Methods		2			2	
3	Principles of Statistics		2			2	
4	Mathematical Physics (2)		2			2	
5	Mathematical Physics (3)		2			2	
6	Thermal and Statistical Physics		3			3	
7	Applied Physics Lab (1)			6		2	
Total			13			16	
Second Year : Summer Training							
Courses Titles		Code / No	Contact Hours			Credit Hours	Pre-Requested
			Lecture	Practical	Tutorial		
<u>1</u>	Internship Physics (1)		Month long			3	
Total						3	

الخطة الدراسية – قسم الفيزياء التطبيقية – كلية العلوم

Third Year : First Semester							
Courses Titles		Code / No	Contact Hours			Credit Hours	Pre-Requested
			Lecture	Practical	Tutorial		
1	Programming Language		2	2		3	
2	Quantum Mechanics		3			3	
3	Electrodynamics		3			3	
4	Nanotechnology		2			2	
5	Applied Physics Lab (2)		0	6		2	
6	Solid State Physics		2		1	3	
Total						16	

Third Year : Second Semester							
Courses Titles		Code / No	Contact Hours			Credit Hours	Pre-Requested
			Lecture	Practical	Tutorial		
1	Seminar		0		2	2	
2	Atomic and Molecular Physics		3			3	
3	Computational Physics		2	2		3	
4	Photonics		3			3	
5	Electronics		2			2	
6	Instruments and Quality Control		1	2		2	
7	Advanced Applied Physics Laboratory		0	6		2	
Total						17	

Third Year : Summer Training							
Courses Titles		Code / No	Contact Hours			Credit Hours	Pre-Requested
			Lecture	Practical	Tutorial		
<u>1</u>	Internship Physics (2)		Month long			3	
Total						3	

الخطة الدراسية – قسم الفيزياء التطبيقية – كلية العلوم

Fourth Year : First Semester							
Courses Titles		Code / No	Contact Hours			Credit Hours	Pre-Requested
			Lecture	Practical	Tutorial		
<u>1</u>	Nuclear and Particles Physics		3			3	
<u>2</u>	Elective (1)		2	2		3	
<u>3</u>	Elective (2)		2	2		3	
<u>4</u>	Elective (3)		2	2		3	
<u>5</u>	Elective (4)		2	2		3	
Total						15	

Fourth Year : Second Semester							
Courses Titles		Code / No	Contact Hours			Credit Hours	Pre-Requested
			Lecture	Practical	Tutorial		
<u>1</u>	Water Technology		2	2		3	
<u>2</u>	Elective (5)		2	2		3	
<u>3</u>	Elective (6)		2	2		3	
<u>4</u>	Project		Year long			4	
Total						13	

LIST OF ELECTIVE COURSES

Course Title	Medical Physics Electives	Code/ no.	Industrial Physics Electives	Code/ no.
1 Elective (1)	Biology		Ceramics & Composites	
2 Elective (2)	Physiology & Basic Anatomy		Polymer Technology	
3 Elective (3)	Radiological Physics & Protection		Industrial Electronics	
4 Elective (4)	Laser in Medicine		Laser in Industry	
5 Elective (5)	Medical Imaging		Sensor Technology	
6 Elective (6)	Nuclear Medicine		Renewable Energy	