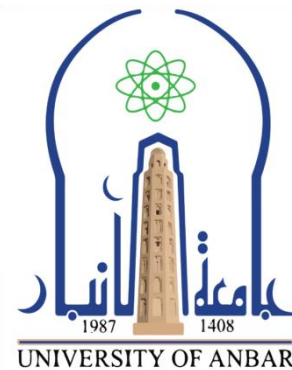


Name of the University

جامعة الانبار



First Cycle – Bachelor's Degree (B.Sc.) - Physics

بكالوريوس – علوم فيزياء



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1. Overview

This catalogue is about the courses (modules) given by the program of Physics Department to gain the Bachelor of Science degree. The program delivers (xx) Modules with (6000) total student workload hours and 240 total ECTS. The module delivery is based on the Bologna Process.

نظرة عامة

يتناول هذا الدليل المواد الدراسية التي يقدمها برنامج قسم علوم الفيزياء للحصول على درجة بكالوريوس العلوم. يقدم البرنامج (48) مادة دراسية، على سبيل المثال، مع (٦٠٠٠) إجمالي ساعات حمل الطالب و ٢٤٠ إجمالي وحدات أوروبية. يعتمد تقديم المواد الدراسية على عملية بولونيا.

2. Undergraduate Courses 2023-2024

Module 1

Code	Course/Module Title	ECTS	Semester
PHY-111	Mechanics I	7	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/2	94	81
Description			
This section includes a description of the module, 100-150 words			

Module 2

Code	Course/Module Title	ECTS	Semester
PHY-112	Electricity	7	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	79	96
Description			
This section includes a description of the module, 100-150 words			

Module 3

Code	Course/Module Title	ECTS	Semester
PHY-113	Mathematics I	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/2	63	62
Description			
This section includes a description of the module, 100-150 words			

Module 4

Code	Course/Module Title	ECTS	Semester
SCI-101	Computer Programming I	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/0	64	36
Description			
This section includes a description of the module, 100-150 words			

Module 5

Code	Course/Module Title	ECTS	Semester
UNI-103	Human Rights and democracy	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/0	48	52
Description			
This section includes a description of the module, 100-150 words			

Module 6

Code	Course/Module Title	ECTS	Semester
UNI-102	Arabic Language	3	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/1/0	48	27
Description			
This section includes a description of the module, 100-150 words			

Module 7

Code	Course/Module Title	ECTS	Semester
PHY-121	Mechanics II	7	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/2	94	81
Description			
This section includes a description of the module, 100-150 words			

Module 8

Code	Course/Module Title	ECTS	Semester
PHY-122	Magnetism	7	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/2	94	81
Description			
This section includes a description of the module, 100-150 words			

Module 9

Code	Course/Module Title	ECTS	Semester
PHY-123	Mathematics II	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/1	48	53
Description			
This section includes a description of the module, 100-150 words			

Module 10

Code	Course/Module Title	ECTS	Semester
PHY-124	Computer Programming II	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
1	0/0/2/0	72	53
Description			
This section includes a description of the module, 100-150 words			

Module 11

Code	Course/Module Title	ECTS	Semester
PHY-125	General Astronomy	3	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/1	48	27
Description			
This section includes a description of the module, 100-150 words			

Module 12

Code	Course/Module Title	ECTS	Semester
UNI-101	English Language	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	0/0/0/0	63	37
Description			
This section includes a description of the module, 100-150 words			

Module 13

Code	Course/Module Title	ECTS	Semester
PHY-211	Modern Physics I	6	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	79	71
Description			
This section includes a description of the module, 100-150 words			

Module 14

Code	Course/Module Title	ECTS	Semester
PHY-212	Heat and Thermodynamic	6	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	79	71

Description
This section includes a description of the module, 100-150 words

Module 15

Code	Course/Module Title	ECTS	Semester
PHY-213	Analytical Mechanics I	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	48	52
Description			
This section includes a description of the module, 100-150 words			

Module 16

Code	Course/Module Title	ECTS	Semester
PHY-214	Analog Electronics	6	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	79	71
Description			
This section includes a description of the module, 100-150 words			

Module 17

Code	Course/Module Title	ECTS	Semester
PHY-215	MathematicsIII	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/1	48	52
Description			
This section includes a description of the module, 100-150 words			

Module 18

Code	Course/Module Title	ECTS	Semester
PHY-216	Numerical Analytic	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)

2	0/2/0/0	63	37
Description			
This section includes a description of the module, 100-150 words			

Module 19

Code	Course/Module Title	ECTS	Semester
PHY-221	Modern Physics II	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/1	48	71
Description			
This section includes a description of the module, 100-150 words			

Module 20

Code	Course/Module Title	ECTS	Semester
PHY-222	Heat and Thermodynamic	6	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	79	71
Description			
This section includes a description of the module, 100-150 words			

Module 21

Code	Course/Module Title	ECTS	Semester
PHY-223	Analytical Mechanics II	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/2	63	37
Description			
This section includes a description of the module, 100-150 words			

Module 22

Code	Course/Module Title	ECTS	Semester
PHY-224	Digital Electronics	6	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	79	71
Description			
This section includes a description of the module, 100-150 words			

Module 23

Code	Course/Module Title	ECTS	Semester
PHY-225	MathematicsIII	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/1	48	52
Description			
This section includes a description of the module, 100-150 words			

Module 24

Code	Course/Module Title	ECTS	Semester
PHY-226	Geometrical Optics	6	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	79	71
Description			
This section includes a description of the module, 100-150 words			

Module 25

Code	Course/Module Title	ECTS	Semester
PHY-311	Physical Optics	6	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	79	71
Description			
This section includes a description of the module, 100-150 words			

Module 26

Code	Course/Module Title	ECTS	Semester
PHY-312	Laser Physics I	6	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	79	71
Description			
This section includes a description of the module, 100-150 words			

Module 27

Code	Course/Module Title	ECTS	Semester
PHY-313	Quantum Mechanics II	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/2	63	37
Description			
This section includes a description of the module, 100-150 words			

Module 28

Code	Course/Module Title	ECTS	Semester
PHY-314	Material Physics I	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	78	22
Description			
This section includes a description of the module, 100-150 words			

Module 29

Code	Course/Module Title	ECTS	Semester
PHY-315	Semiconductor	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/0	49	76
Description			
This section includes a description of the module, 100-150 words			

Module 30

Code	Course/Module Title	ECTS	Semester
PHY-316	Mathematical Physics I	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/0	48	77
Description			
This section includes a description of the module, 100-150 words			

Module 31

Code	Course/Module Title	ECTS	Semester
PHY-321	sound and wave motion	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	79	71
Description			
This section includes a description of the module, 100-150 words			

Module 32

Code	Course/Module Title	ECTS	Semester
PHY-322	Laser applications	6	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/0	79	71
Description			

This section includes a description of the module, 100-150 words

Module 33

Code	Course/Module Title	ECTS	Semester
PHY-323	Quantum Mechanics II	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/1	63	62
Description			
This section includes a description of the module, 100-150 words			

Module 34

Code	Course/Module Title	ECTS	Semester
PHY-324	statistical mechanics I	6	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/0	79	71
Description			
This section includes a description of the module, 100-150 words			

Module 35

Code	Course/Module Title	ECTS	Semester
PHY-325	Mathematical Physics II	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/0	63	62
Description			
This section includes a description of the module, 100-150 words			

Module 36

Code	Course/Module Title	ECTS	Semester
PHY-326	Modeling and simulation	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/0	33	67
Description			
This section includes a description of the module, 100-150 words			

Module 37

Code	Course/Module Title	ECTS	Semester
PHY-411	Nuclear Physics I	7	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	94	81
Description			
This section includes a description of the module, 100-150 words			

Module 38

Code	Course/Module Title	ECTS	Semester
PHY-412	Solid State Physics I	7	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	94	81
Description			
This section includes a description of the module, 100-150 words			

Module 39

Code	Course/Module Title	ECTS	Semester
PHY-413	Electromagnetics Theory I	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/2	63	37
Description			
This section includes a description of the module, 100-150 words			

Module 40

Code	Course/Module Title	ECTS	Semester
PHY-414	Nanoscience I	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/2	63	37
Description			
This section includes a description of the module, 100-150 words			

Module 41

Code	Course/Module Title	ECTS	Semester
PHY-415	Nuclear spectrum	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/0	48	52
Description			
This section includes a description of the module, 100-150 words			

Module 42

Code	Course/Module Title	ECTS	Semester
PHY-416	statistical mechanics II	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	32	68
Description			
This section includes a description of the module, 100-150 words			

Module 43

Code	Course/Module Title	ECTS	Semester
PHY-421	Nuclear Physics II	7	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	79	96
Description			
This section includes a description of the module, 100-150 words			

Module 44

Code	Course/Module Title	ECTS	Semester
PHY-422	Solid State Physics II	7	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/2/0/1	79	96
Description			
This section includes a description of the module, 100-150 words			

Module 45

Code	Course/Module Title	ECTS	Semester
PHY-423	Electromagnetics Theory II	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/0	63	37
Description			
This section includes a description of the module, 100-150 words			

Module 46

Code	Course/Module Title	ECTS	Semester
PHY-424	medical Physics	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/0	63	37
Description			
This section includes a description of the module, 100-150 words			

Module 47

Code	Course/Module Title	ECTS	Semester
PHY-425	Practical Physics	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/0	63	37
Description			
This section includes a description of the module, 100-150 words			

Module 48

Code	Course/Module Title	ECTS	Semester
PHY-426	Research project	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/0/0/0	48	52
Description			
This section includes a description of the module, 100-150 words			

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