



Degree and Study Plan

College: Science
 Department: Physics
 Cohort: 2018-2020
 Degree: Bachelor of Science
 Major: Physics
 Specialization:

<u>Summary of Credits:</u>		
University Requirements (UR)		6
Foundation Program	NC ⁺	
Arabic	2	
State & People	2	
Oman & Islamic Civilization or Islamic Culture	2	
University Electives (UE)		6
See List A		
College Requirements (CR)		3
See list B		
College Electives (CE)		16
See list C		
Departmental Requirements (DR)		65
See list D		
Departmental Electives (DE)		0
See list E		
Major Requirements (AR)		0
See list F		
Major Electives (AE)		26
See list G		
Specialization Requirements (SR)		0
See list H		
Specialization Electives (SE)		0
See list I		
Minor Requirements (IR)⁺⁺		0
See list J		
Minor Electives (IE)⁺⁺		
See list K		
TOTAL		122

+ Not credited

++ Minor is optional: Total credits to earn a Minor are 18. Courses counting towards an approved Minor may substitute courses listed as Major Electives (List G) but no more than 8 credits counting towards the Major degree (List C, D) may count towards a Minor..

For reference contact Dr. Ridha Horchani Ext.1457
 HoD: Prof. Isam Hasan Ali  Date: 5/10/2023
 Dean's Office: Dr. Talal Al- Hosni  Date: 13.11.2023
 Admission and Registration: Date:



Department of Physics - Physics Degree Plan for Cohort 2018-2020

Categories	CR
University Requirements (UR)	6
University Electives (UE)	6
College Requirements (CR)	3
College Electives (CE)	16
Departmental Requirements (DR)	65
Major Electives (AE)	26
Total	122

	Course Code	Course Title	Cr.	Pre-Requisite/Co-Requisite*	Cat.
Semester 1 Fall	ARAB1060 ARAB1019	Arabic or Arabic for Non-Speaker (3 Cr)	2		UR
	LANC2058	Communication in Science	3	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604	CR
	MATH2107	Calculus I	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0108)	CE
	PHYS2101	General Physics I	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0108)	CE
		University Elective	2		UE
	Total		15 (16)		

Semester 2 Spring	HIST1010 or ISLM1010	Oman & Islamic Civilization or Islamic Culture	2		UR
	MATH2108	Calculus II	3	MATH2107	DR
	PHYS 2102	General Physics II	4	PHYS2101 / MATH2107*	DR
		College Elective	4		CE
		University Elective	2		UE
	Total		15		

Semester 3 Fall	COMP2101	Introduction to Computer Science	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and FPMT0105 or FPMT0108	DR
	MATH3171	Linear Algebra & Multivariate Calculus for Engineers	3	LANC2058 and MATH2108	DR
	PHYS3103	Physics III	3	LANC2058 and PHYS2102	DR
		Major Elective	3		AE
		Major Elective	3		AE
	Total		16		

Semester 4 Spring	PHYS3005	Experimental Methods of Physics I	3	LANC2058 and PHYS2102	DR
	PHYS3100	Introductory Computational Physics	2	LANC2058 and COMP2101 and MATH2107 and PHYS2101 / MATH3171*	DR
	PHYS3101	Theoretical Methods of Physics	3	LANC2058 and MATH2108 /MATH3171*	DR
	PHYS3104	Modern Physics	3	LANC2058 and PHYS3103	DR
		Major Elective	3		AE
		University Elective	2		UE
Total			16		

Semester 5 Fall	PHYS3001	Dynamics	3	LANC2058 and PHYS2101 and PHYS3101	DR
	PHYS4030	Electromagnetic Theory	3	PHYS3101 and PHYS3103 and MATH3171	DR
	PHYS4105	Experimental Methods of Physics II	3	PHYS3005	DR
	PHYS4018	Thermal & Statistical Physics	4	PHYS3104	DR
		Major Elective	3		AE
Total			16		

Semester 6 Spring	PHYS3106	Electronics	4	LANC2058 and PHYS2102	DR
	PHYS4101	Quantum Physics I	3	PHYS3101 and PHYS3104	DR
	SOCY1005 or SOCY1007 [†]	State and People Omani Contemporary Society	2		UR
		Major Elective	3		AE
		Major Elective	3		
Total			15		

[†]For non-Omani citizens only

Semester 7 Fall	PHYS4107	Computational Methods of Physics	3	PHYS3001 and PHYS3100 and PHYS4101	DR
	PHYS5003	Condensed Matter Physics I	3	PHYS4018	DR
	PHYS5106	Nuclear Physics	3	PHYS4101	DR
	PHYS5551	Physics Project I	3	PHYS4018 and PHYS4105	DR
		Major Elective	2		AE
Total			14		

Semester 8 Spring	PHYS4100	Optics & Lasers	3	PHYS4030	DR
	PHYS5105	Experimental Methods of Physics III	3	PHYS3106 and PHYS4105 /PHYS4100* and PHYS5003*	DR
	PHYS5552	Physics Project II	3	PHYS5551	DR
		Major Elective	3		AE
		Major Elective	3		AE
Total			15		

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	Course Title	Cr.	Pre-Requisite/Co-Requisite*
ARAB1060 ARAB1019 [†]	Arabic or Arabic for Non-Speakers (3 Cr)	2	
HIST1010 or ISLM1010	Oman & Islamic Civilization or Islamic Culture	2	
SOCY1005 or SOCY1007 [†]	State and People Omani Contemporary Society	2	
Total		6 (7)	

[†]For non-Omani citizens only

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LIST A: UNIVERSITY ELECTIVES (UE) (6 Credits)

Please see the List of University Electives from Admission and Registration Web site

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LIST B: COLLEGE REQUIREMENTS (CR) (3 Credits)

Course Code	Course Title	Cr.	Pre-Requisite/Co-Requisite*
LANC2058	Communication in Science	3	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604
Total		3	

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LIST C: COLLEGE ELECTIVES (CE) (16 Credits)

Course Code	Course Title	Cr.	Pre-Requisite/Co-Requisite*
BIOL2101	General Biology I	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604
CHEM2101	General Chemistry	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0108)
COMP2101 [†]	Introduction to Computer Science	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPCS0101 or FCS0102)
ERSC2101	Introduction to Geology I	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604
MAH2107 [†]	Calculus I	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0108)
PHYS2101 [†]	General Physics I	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0108)
STAT2101	Introduction to Statistics	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0108)

[†]PHYS2101, COMP2101 and MATH2107 are key pre-requisite courses for Physics major. Credits taken in excess of 16 can be counted as Major Electives (List G).

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LIST D: PHYSICS DEPARTMENTAL REQUIREMENTS (DR) (65 Credits)

Course Code	Course Title	Cr.	Pre-Requisite/Co-Requisite*
MATH2108	Calculus II	3	MATH2107
MATH3171	Linear Algebra & Multivariate Calculus for Engineers	3	LANC2058 and MATH2108
PHYS2102	General Physics II	4	PHYS2101 /MATH2107*
PHYS3001	Dynamics	3	LANC2058 and PHYS2102 and PHYS3101
PHYS3005	Experimental Methods of Physics I	3	LANC2058 and PHYS2102
PHYS3100	Introductory Computational Physics	2	LANC2058 and COMP2101 and MATH2107and PHYS2102 /MATH3171*
PHYS3101	Theoretical Methods of Physics I	3	LANC2058 and MATH2108 /MATH3171*
PHYS3103	Physics III	3	LANC2058 and PHYS2102 and MATH2107
PHYS3104	Modern Physics	3	LANC2058 and PHYS3103
PHYS3106	Electronics	4	LANC2058 and PHYS2102
PHYS4018	Thermal & Statistical Physics	4	PHYS3104
PHYS4030	Electromagnetic Theory	3	PHYS3101 and PHYS3103 and MATH3171
PHYS4100	Optics & Lasers	3	PHYS4030
PHYS4101	Quantum Physics I	3	PHYS3101 and PHYS3104
PHYS4105	Experimental Methods of Physics II	3	PHYS3005
PHYS4107	Computational Methods of Physics	3	PHYS3001and PHYS3100 and PHYS4101
PHYS5003	Condensed Matter Physics I	3	PHYS4018
PHYS5105	Experimental Methods of Physics III	3	PHYS3106 and PHYS4105 / PHYS4100* and PHYS5003*
PHYS5106	Nuclear Physics	3	PHYS4101
PHYS5502	Physics Project I	3	PHYS4018 and PHYS4105
PHYS5503	Physics Project II	3	
Total		65	

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LIST E: PHYSICS DEPARTMENTAL ELECTIVES (DE) (0 Credits)

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LIST F: PHYSICS MAJOR REQUIREMENTS (AR) (0 Credits)

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LIST G. MAJOR ELECTIVES (AE) (26 credits)

“All College of Science courses not used for required courses (Lists A, B, C, D, E, F, H and I) can be taken as major electives”.

Refer Major Electives page on the College Website:

<https://www.squ.edu.om/science/Academic-Programs/Undergraduate-Programs/Major-Electives>

Department of Physics – Physics Degree Plan for Cohort 2018-2020 MINORS AVAILABLE TO PHYSICS MAJORS

LISTS J and K: MINOR REQUIREMENTS and ELECTIVES (18 Credits)

Refer to Minor page on the College Website to see the available minors and their requirements:

<https://www.squ.edu.om/science/Academic-Programs/Undergraduate-Programs>

* Students are required to complete 18 Credits in the minor courses to qualify for a minor.

* Courses counting towards an approved Minor may substitute courses listed as Major Electives (List G) but no more than 8 credits counting towards the Major degree (lists C, D, E, F) may count towards a Minor.

* Students should take a minor different than their major.

For reference contact: Dr. Ridha Horchani

Ext. 1457

Approved by Dean of Science:



Date: 13.11.2023

Office of Admissions & Registration:



Confirmed:

Date: