



Degree and Study Plan

College: Science
 Department: Physics
 Cohort: 2021-2025
 Degree: Bachelor of Science
 Major: Physics
 Specialization:

Summary of Credits:

University Requirements (UR)	6
Foundation Program	NC ⁺
Arabic	3
Contemporary Omani Society	1
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)	66
See list D	
Departmental Electives (DE)	0
See list E	
Major Requirements (AR)	0
See list F	
Major Electives (AE)	25
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
 HoD: Prof. Isam Hasan Ali

Ext.1457

Date: 08/11/2023

Dean's Office: Dr. Talal Al-Hosni

Date: 11.03.2024

Admission and Registration:

Date:



Department of Physics - Physics Degree Plan for Cohort 2021-2025

Categories	CR
University Requirements (UR)	6
University Electives (UE)	6
College Requirements (CR)	3
College Electives (CE)	16
Departmental Requirements (DR)	66
Major Electives (AE)	25
Total	122

	Course Code	Course Title	Cr.	Pre-Requisite/Co-	Cat.
Semester 1 Fall	ARAB1060	Arabic	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 FPMT0109)	CE
	PHYS2101	General Physics I	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)	CE
		University Elective	2		UE
	Total		15		

Semester 2 Spring	HIST1010 or ISLM1010	Oman & Islamic Civilization or Islamic Culture	2		UR
	MATH2109	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 FPMT0109	CE
	MATH3171	Linear Algebra & Multivariate Calculus for Engineers	3	LANC2058 and (MATH2108 or MATH2109)	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
	PHYS3110	Computational Physics I	2	LANC2058 and COMP2101 and MATH2107 and PHYS2101 / MATH3171*	DR
	PHYS3101	Theoretical Methods of Physics	3	PHYS3103 and LANC2058 and (MATH2108 or MATH2109) /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	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	State and People	2		UR
		Major Elective	3		AE
		Major Elective	3		AE
	Total		15		

Summer	PHYS5555	Physics Internship	1		DR
	Total		1		

Semester 7 Fall	PHYS4110	Computational Physics II	3	PHYS3001 and PHYS3110 and PHYS4101	DR
	PHYS5003	Condensed Matter Physics I	3	PHYS4018 and PHYS4101	DR
	PHYS5106	Nuclear Physics	3	PHYS4101	DR
	PHYS5551	Physics Project I	2	PHYS4105 and PHYS4018 OR PHYS4030 OR PHYS4101	DR
		Major Elective	3		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	4	PHYS5551	DR
		Major Elective	3		AE
		Major Elective	1		AE
	Total		14		

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	Course Title	Cr.	Pre-Requisite/Co-Requisite*
ARAB1001	Arabic	3	
HIST1010 or ISLM1010	Oman & Islamic Civilization or Islamic Culture	2	
SOCY1001	Omani Contemporary Society	1	
Total		6	

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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 FPMT0109)

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 FPMT0109)
PHYS2101 [†]	General Physics I	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
STAT2101	Introduction to Statistics	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)

[†]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) (66 Credits)

Course Code	Course Title	Cr.	Pre-Requisite/Co-Requisite*
MATH2109	Calculus II	3	MATH2107
MATH3171	Linear Algebra & Multivariate Calculus for Engineers	3	LANC2058 and (MATH2108 or MATH2109)
PHYS2102	General Physics II	4	PHYS2101 /MATH2107*
PHYS3001	Dynamics	3	PHYS3101
PHYS3005	Experimental Methods of Physics I	3	LANC2058 and PHYS2102
PHYS3110	Computational Physics I	2	LANC2058 and COMP2101 and MATH2107 and PHYS2102 /MATH3171*
PHYS3101	Theoretical Methods of Physics I	3	PHYS3103 and LANC2058 and (MATH2108 or MATH2109) /MATH3171*
PHYS3103	Physics III	3	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
PHYS5555	Physics Internship	1	Completed 90 Credits
PHYS4110	Computational Physics II	3	PHYS3001 and PHYS3100 and PHYS4101
PHYS5003	Condensed Matter Physics I	3	PHYS4018 and PHYS4101
PHYS5105	Experimental Methods of Physics III	3	PHYS3106 and PHYS4105 / PHYS4100* and PHYS5003*
PHYS5106	Nuclear Physics	3	PHYS4101

PHYS5551	Physics Project I	2	PHYS4018 and PHYS4105
PHYS5552	Physics Project II	4	PHYS5551
Total		66	

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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) (25 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 2021-2025
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: 11.03.2024

Office of Admissions & Registration:

Confirmed:

Date:

