

Integrated Degree Programme of BSc in Physics/Applied Physics and MSc by Research (For AY14/15 intake and later)

ACADEMIC UNITS REQUIRED FOR GRADUATION

BSc Programme	Year of Study	Core	Major Prescribed Electives	GER					Unrestricted Electives	Total
				Core	Prescribed Electives					
					STS	BM	LA	Any Category		
Physics	1	28	0	4	3	0	0	0	3	38
	2	24	4	4	0	3	3	0	3	41
	3	14	20	4	0	0	0	3	0	41
	4	0	0	0	0	0	0	3	9	12
TOTAL		66	24	12	3	3	3	6	15	132
Applied Physics	1	28	0	4	3	0	0	0	3	38
	2	27	3	4	0	3	0	0	3	40
	3	12	20	4	0	0	0	3	3	42
	4	0	0	0	0	0	3	3	6	12
TOTAL		67	23	12	3	3	3	6	15	132

MSc Programme	Year of Study	
MSc by Research	4	12 AU coursework component Master Research Thesis
MSc by Research	5 Sem 1	Master Research Thesis extension**

** An extension of 1 semester to complete Master Research Thesis may be required depending on the nature and progress of the research project. Application for extension will be reviewed by the School and GSO.

CURRICULUM STRUCTURE

Physics

Course Code and Title	Type	AU
Year 1 Semester 1		
PH1104 Mechanics	Core	3
PH1105 Optics, Vibration and Waves	Core	3
PH1198 Physics Laboratory Ia	Core	2
MH1401 Algorithms and Computing I	Core	2
MH1800 Calculus for the Sciences I	Core	3
ML0001 Absolute Basic for Career Course	GER Core	1
GER PE	GER PE	3

Course Code and Title	Type	AU
UE	UE	3
Total		20
Year 1 Semester 2		
PH1106 Electricity and Magnetism	Core	3
PH1107 Relativity and Modern Physics	Core	3
PH1199 Physics Laboratory Ib	Core	2
MH1801 Calculus for the Sciences II	Core	3
MH2800 Linear Algebra and Multivariable Calculus	Core	4
HW0138 Scientific Communication I	GER Core	2
Environmental Sustainability	GER Core	1
Total		18
Year 2 Semester 1		
PH2103 Thermal Physics	Core	4
PH2104 Analytical Mechanics	Core	4
PH2198 Physics Laboratory IIa	Core	2
MH2801 Complex Methods for the Sciences	Core	3
Major PE	Major PE	4
GER PE	GER PE	3
Total		20
Year 2 Semester 2		
PH2101 Quantum Mechanics I	Core	3
PH2102 Electromagnetism	Core	4
PH2199 Physics Laboratory IIb	Core	2
MH1402 Algorithms and Computing II	Core	2
Ethnics & Academic	GER Core	1
PS8001 Defence Science	GER Core	3
GER PE	GER PE	3
UE	UE	3
Total		21
Year 3 Semester 1		
PH3101 Quantum Mechanics II	Core	4
PH3102 Introduction to Solid State Physics I	Core	4
Career Power Up!	GER Core	1
PH4405 Final Year Project	Major PE	10
Major PE	Major PE	4
Total		23
Year 3 Semester 2		
PH3201 Statistical Mechanics I	Core	4
PH3199 Physics Laboratory IIIa	Core	2
PH4405 Final Year Project	Major PE	10
Major PE	Major PE	6
Enterprise & Innovative	GER Core	1
HW0238 Scientific Communication II	GER Core	2
GER PE	GER PE	3

Course Code and Title	Type	AU
Total		28
Year 4 Semester 1		
Master Research Thesis		4
PAP701 Graduate Seminar Module		3
GER PE	GER PE	3
UE	UE	3
Total		10
Year 4 Semester 2		
Master Research Thesis		4
PAP7XX/other school's/division's 7XX course		6
UE	UE	6
Total		10
Year 4 Semester 1/2		
MPS780/MPS781 Supervised Research I/II		4
Year 5 Semester 1		
Master Research Thesis <i>(if extension is required)</i>		

Applied Physics

Course Code and Title	Type	AU
Year 1 Semester 1		
PH1104 Mechanics	Core	3
PH1105 Optics, Vibration and Waves	Core	3
PH1198 Physics Laboratory Ia	Core	2
MH1401 Algorithms and Computing I	Core	2
MH1800 Calculus for the Sciences I	Core	3
ML0001 Absolute Basic for Career Course	GER Core	1
GER PE	GER PE	3
UE	UE	3
Total		20
Year 1 Semester 2		
PH1106 Electricity and Magnetism	Core	3
PH1107 Relativity and Modern Physics	Core	3
PH1199 Physics Laboratory Ib	Core	2
MH1801 Calculus for the Sciences II	Core	3
MH2800 Linear Algebra and Multivariable Calculus	Core	4
HW0138 Scientific Communication I	GER Core	2
Environmental Sustainability	GER Core	1
Total		18
Year 2 Semester 1		
PH2103 Thermal Physics	Core	4
PH2198 Physics Laboratory IIa	Core	2
MH2801 Complex Methods for the Sciences	Core	3
Major PE	Major PE	3
GER PE	GER PE	3

Course Code and Title	Type	AU
UE	UE	3
Total		18
Year 2 Semester 2		
PH2101 Quantum Mechanics I	Core	3
PH2102 Electromagnetism	Core	4
PH2104 Analytical Mechanics	Core	4
PH2199 Physics Laboratory IIb	Core	2
PH2301 Physical Optics	Core	3
MH1402 Algorithms and Computing II	Core	2
Ethnics & Academic	GER Core	1
PS8001 Defence Science	GER Core	3
Total		22
Year 3 Semester 1		
PH3101 Quantum Mechanics II	Core	4
PH3102 Introduction to Solid State Physics I	Core	4
PH3199 Physics Laboratory IIIa	Core	2
Career Power Up!	GER Core	1
PH4405 Final Year Project	Major PE	10
Major PE	Major PE	3
Total		24
Year 3 Semester 2		
PH3399 Physics Laboratory IIIb	Core	2
PH4405 Final Year Project	Major PE	10
Major PE	Major PE	7
Enterprise & Innovative	GER Core	1
HW0238 Scientific Communication II	GER Core	2
GER PE	GER PE	3
UE	UE	3
Total		28
Year 4 Semester 1		
Master Research Thesis		
PAP701 Graduate Seminar Module		4
GER PE	GER PE	3
UE	UE	6
Total		13
Year 4 Semester 2		
Master Research Thesis		
PAP7XX/other school's/division's 7XX course		4
GER PE	GER PE	3
Total		7

Course Code and Title	Type	AU
Year 4 Semester 1/2		
MPS780/MPS781 Supervised Research I/II		4
Year 5 Semester 1		
Master Research Thesis (<i>if extension is required</i>)		

Description of Abbreviation

AHSS - Arts, Humanities & Social Sciences

BM – Business & Management

LS – Liberal Studies

STS – Science, Technology & Society

LA – Liberal Arts

* Students are required to take 15AUs from GER-PE. A minimum of 3 AUs is required for each type (i.e. LA, STS, BM) and is free to choose to take the remaining 6AUs from any type of GER-PE