UAEU كلية العلوم College of Science

جامعة الإمارات العربية المتحدة United Arab Emirates University

Bachelor of Sicience in Physics Model Study Plan (2020-2021 Cohort onwards)

Concentration: General Physics

For Students Admitted to the University from the Fall Semester

Total Degree Credit hours: 120

	Semester	Course Code	Course Title	CH	Course type	Semester	Course Code	Course Title	CH	Course type
Year 1	1 (Fall)	PHYS105	General Physics I	3	Gen Ed Course (Cluster 3: Area 1: Natural Sciences)	2 (Spring)	PHYS110	General Physics II	3	Major 1
		PHYS135	General Physics Lab I	1	Major 1		PHYS140	General Physics Lab II	1	Major 1
		MATH105	Calculus I	3	Gen Ed Course (Cluster 1: Area 5: Quantitative Reasoning)		MATH110	Calculus II	3	Support course
		CHEM111	General Chemistry I	3	Support course		PHYS220	Thermal Physics	3	Major 1
		CSBP112	Introduction To Programming	3	Support course		MATH140	Linear Algebra I	3	Support course
		ESPU102	Introduction to Academic English For Science	3	Gen Ed Course (Cluster 1: Area 2: English Communication)		GBT112	Fourth Industrial Revolution	3	Gen Ed Course (Cluster 1: Area 3: Fourth Industrial Revolution)
				16					16	
Year 2	3 (Fall)	PHYS235	Waves and Optics	3	Major 1	4 (Spring)	PHYS205	Intermediate Physics Lab I	1	Major 1
		PHYS231	Electronics Fundamentals	3	Major 1		PHYS250	Modern Physics	3	Major 1
		PHYS255	Mathematical Physics	3	Concentration		PHYS262	Classical Mechanics	3	Major 1
		MATH275	Ordinary Differential Equations	3	Support course		STAT210	Probability and Statistics	3	Support course
		PHY180	Critical Thinking	3	Gen Ed Course (Cluster 1: Area 4: Critical Thinking)		GBE222	Fundamentals of Innovation and Entrepreneurship	3	Gen Ed Course (Cluster 1: Area 1: Innovation and Entrepreneurship)
				15					14	
Year 3	5 (Fall)	PHYS210	Intermediate Physics Lab II	1	Concentration	6 (Spring)	Elective	Student choice	3	Major Elective
		PHYS335	Electromagnetic Theory	3	Major 1		PHYS355	Quantum Mechanics	3	Concentration
		PHYS312	Statistical Physics	2	Concentration		Elective	Student choice	3	Major Elective
		Elective	Student choice	3	Free Elective		Elective	Student choice	3	Free Elective
		PSY313	Educational Psychology	3	Gen Ed Course (Cluster 2: Area 2: Social and Behavioral Sciences)		GESU121	Sustainability	3	Gen Ed Course (Cluster 3: Area 2: Sustainability)
		Elective	Student choice	3	Gen Ed Course (Cluster 2: Area 1: Humanities and Fine Arts)		Elective	Student choice	3	Support course
				15					15	
Year 4	7 (Fall)	PHYS470	Solid State Physics	3	Concentration	8 (Spring)	PHYS494	Research Project	3	Major 1
		PHYS483	Introductory Nuclear Physics	3	Concentration		PHYS500	Internship	6	Internship
		Elective	Student choice	3	Major Elective					
		HSS105	Emirates Studies	3	Gen Ed Course (Cluster 2: Area 3: Emirates Society)					
		ISLM100	Islamic Culture	2	Gen Ed Course (Cluster 2: Area 4: Islamic Culture)					
				14					9	

Bachelor of Sicience in Physics Model Study Plan (2020-2021 Cohort onwards)

Concentration: General Physics

For Students Admitted to the University from the Spring Semester

Total Degree Credit hours: 120

	Semester	Course Code	Course Title	CH	Course type	Semester	Course Code	Course Title	CH	Course type
Year 1	1 (Spring)	PHYS105	General Physics I	3	Gen Ed Course (Cluster 3: Area 1: Natural Sciences)	2 (Fall)	PHYS110	General Physics II	3	Major 1
		PHYS135	General Physics Lab I	1	Major 1		PHYS140	General Physics Lab II	1	Major 1
		MATH105	Calculus I	3	Gen Ed Course (Cluster 1: Area 5: Quantitative Reasoning)		MATH110	Calculus II	3	Support course
		CHEM111	General Chemistry I	3	Support course		PHYS235	Waves and Optics	3	Major 1
		CSBP112	Introduction To Programming	3	Support course		MATH140	Linear Algebra I	3	Support course
		ESPU102	Introduction to Academic English For Science	3	Gen Ed Course (Cluster 1: Area 2: English Communication)		GBT112	Fourth Industrial Revolution	3	Gen Ed Course (Cluster 1: Area 3: Fourth Industrial Revolution)
				16					16	
Year 2	3 (Spring)	PHYS220	Thermal Physics	3	Major 1	4 (Fall)	PHYS210	Intermediate Physics Lab II	1	Major 1
		PHYS231	Electronics Fundamentals	3	Major 1		PHYS255	Mathematical Physics	3	Major 1
		PHYS250	Modern Physics	3	Major 1		Elective	Student choice	3	Major Elective
		MATH275	Ordinary Differential Equations	3	Support course		STAT210	Probability and Statistics	3	Major 1
		PHY180	Critical Thinking	3	Gen Ed Course (Cluster 1: Area 4: Critical Thinking)		GBE222	Fundamentals of Innovation and Entrepreneurship	3	Gen Ed Course (Cluster 1: Area 1: Innovation and Entrepreneurship)
				15					14	
Year 3	5 (Spring)	PHYS205	Intermediate Physics Lab I	1	Major 1	6 (Fall)	PHYS312	Statistical Physics	2	Major 1
		PHYS355	Quantum Mechanics	3	Major 1		PHYS335	Electromagnetic Theory	3	Major 1
		PHYS262	Classical Mechanics	3	Major 1		Elective	Student choice	3	Major Elective
		Elective	Student choice	3	Free Elective		Elective	Student choice	3	Free Elective
		PSY313	Educational Psychology	3	Gen Ed Course (Cluster 2: Area 2: Social and Behavioral Sciences)		GESU123	Sustainability	3	Gen Ed Course (Cluster 3: Area 2: Sustainability)
		Elective	Student choice	3	Gen Ed Course (Cluster 2: Area 1: Humanities and Fine Arts)		Elective	Student choice	3	Support course
				16					17	
Year 4	7 (Spring)	PHYS470	Solid State Physics	3	Major 1	8 (Fall)	PHYS494	Research Project	3	Major 1
		PHYS483	Introductory Nuclear Physics	3	Major 1		PHYS500	Internship	6	Internship
		Elective	Student choice	3	Major Elective					
		HSS105	Emirates Studies	3	Gen Ed Course (Cluster 2: Area 3: Emirates Society)					
		ISLM100	Islamic Culture	2	Gen Ed Course (Cluster 2: Area 4: Islamic Culture)					
				14					9	

Bachelor of Sicience in Physics Model Study Plan (2020-2021 Cohort onwards)

Concentration: Space Science

For Students Admitted to the University from the Fall Semester

Total Degree Credit hours: 120

	Semester	Course Code	Course Title	CH	Course type	Semester	Course Code	Course Title	CH	Course type
Year 1	1 (Fall)	PHYS105	General Physics I	3	Gen Ed Course (Cluster 3: Area 1: Natural Sciences)	2 (Spring)	PHYS110	General Physics II	3	Major 1
		PHYS135	General Physics Lab I	1	Major 1		PHYS140	General Physics Lab II	1	Major 1
		MATH105	Calculus I	3	Gen Ed Course (Cluster 1: Area 5: Quantitative Reasoning)		MATH110	Calculus II	3	Support course
		CHEM111	General Chemistry I	3	Support course		PHYS220	Thermal Physics	3	Major 1
		CSBP112	Introduction To Programming	3	Support course		MATH140	Linear Algebra I	3	Support course
		ESPU102	Introduction to Academic English For Science	3	Gen Ed Course (Cluster 1: Area 2: English Communication)		GBT112	Fourth Industrial Revolution	3	Gen Ed Course (Cluster 1: Area 3: Fourth Industrial Revolution)
				16					16	
Year 2	3 (Fall)	PHYS205	Intermediate Physics Lab I	1	Major 1	4 (Spring)	PHYS200	Introduction to Space Sciences	3	Concentration
		PHYS235	Waves and Optics	3	Major 1		STAT210	Probability and Statistics	3	Support course
		PHYS231	Electronics Fundamentals	3	Major 1		PHYS250	Modern Physics	3	Major 1
		Elective	Student choice	3	General Education Choice		PHYS262	Classical Mechanics	3	Major 1
		MATH275	Ordinary Differential Equations	3	Support course		GBE222	Fundamentals of Innovation and Entrepreneurship	3	Gen Ed Course (Cluster 1: Area 1: Innovation and Entrepreneurship)
		PHY180	Critical Thinking	2	Gen Ed Course (Cluster 1: Area 4: Critical Thinking)		Elective	Student choice	3	Free Elective
				15					18	
Year 3	5 (Fall)	PHYS270	Celestial Mechanics	3	Concentration	6 (Spring)	PHYS310	Space Missions	3	Concentration
		PHYS335	Electromagnetic Theory	3	Major 1		PHYS320	Spacecraft Instrument Science	3	Concentration
		Elective	Student choice	3	Major Elective		GESU121	Sustainability	3	Gen Ed Course (Cluster 3: Area 2: Sustainability)
		Elective	Student choice	3	Free Elective		Elective	Student choice	3	Major Elective
		Elective	Student choice	3	Gen Ed Course (Cluster 2: Area 1: Humanities and Fine Arts)		Elective	Student choice	3	Major Elective
				15					15	
Year 4	7 (Fall)	PHYS410	Space Applications I	3	Concentration	8 (Spring)	PHYS494	Research Project	3	Major 1
		PHYS420	Space Applications II	3	Concentration		PHYS500	Internship	6	Internship
		PSY313	Educational Psychology	3	Gen Ed Course (Cluster 2: Area 2: Social and Behavioral Sciences)					
		ISLM100	Islamic Culture	3	Gen Ed Course (Cluster 2: Area 4: Islamic Culture)					
		HSS105	Emirates Studies	3	Gen Ed Course (Cluster 2: Area 3: Emirates Society)					
				15					9	