UAEU كلية العلوم College of Science

جامعة الإمارات العربية المتحدة United Arab Emirates University

Bachelor of Sicience in Mathematics Model Study Plan (2022-2023 Cohort onwards)

For Students Admitted to the University from the Fall Semester
Total Degree Credit hours: 120

	Semester	Course Code	Course Title	CH	Course type
Year 1	1 (Fall)	MATH105	Calculus I	3	Gen Ed Course (Cluster 1: Area 5: Quantitative Reasoning)
		PHYS105	General Physics I	3	Gen Ed Course (Cluster 3: Area 1: Natural Sciences)
		CSBP112	Introduction To Programming	3	Support course
		ESPU102	Introduction to Academic English For Science	3	Gen Ed Course (Cluster 1: Area 2: English Communication)
		Elective	Student choice	3	Gen Ed Course (Cluster 2: Area 1: Humanities and Fine Arts)
				15	
Year 2	3 (Fall)	MATH210	Calculus III	3	Major 1
		MATH205	Set Theory and Logic	3	Major 1
		MATH275	Ordinary Differential Equations	3	Major 1
		GEIE222	Fundamentals of Innovation and Entrepreneurship	3	Gen Ed Course (Cluster 1: Area 1: Innovation and Entrepreneurship)
		HSS105	Emirates Studies	3	Gen Ed Course (Cluster 2: Area 3: Emirates Society)
		GEIE222	Fundamentals of Innovation and Entrepreneurship	3	Gen Ed Course (Cluster 3: Area 2: Sustainability)
				18	
Year 3	5 (Fall)	MATH215	Introduction to Analysis	3	Major 1
		MATH340	Abstract Algebra 1	3	Major 1
		Elective	Student choice	3	Major Elective
		Elective	Student choice	3	Support course
		STAT230	Principles of Probability	3	Support course
				15	
Year 4	7 (Fall)	Elective	Student choice	3	Major Elective
		ENG310	Writing for Research	3	Support course
		Elective	Student choice	3	Support course
		Elective	Student choice	3	Support course
		Elective	Student choice	3	Free Elective
				15	

	Semester	Course Code	Course Title	CH	Course type
Year 1	2 (Spring)	MATH110	Calculus II	3	Major 1
		PHYS110	General Physics II	3	Support course
		MATH140	Linear Algebra I	3	Major 1
		Elective	Student choice	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 1: Area 4: Critical Thinking)
				18	
Year 2	4 (Spring)	MATH246	Number Theory	3	Major 1
		MATH315	Complex Analysis I	3	Major 1
		MATH320	Numerical Analysis I	3	Major 1
		Elective	Student choice	3	Major Elective
		ISLM100/ISLM101	Islamic culture	3	Gen Ed Course (Cluster 2: Area 4: Islamic Culture)
				15	
Year 3	6 (Spring)	MATH310	Real Analysis	3	Major 1
		MATH372	Partial Differential Equations	3	Major 1
		Elective	Student choice	3	Major Elective
		Elective	Student choice	3	Support course
		Elective	Student choice	3	Free Elective
				15	
Year 4	8 (Spring)	MATH495	Research Project	3	Major 1
		MATH500	Internship	6	Internship
				9	

Bachelor of Sicience in Mathematics Model Study Plan (2023-2024 Cohort onwards)

For Students Admitted to the University from the Fall Semester
Total Degree Credit hours: 120

	Semester	Course Code	Course Title	CH	Course type
Year 1	1 (Fall)	MATH105	Calculus I	3	Gen Ed Course (Cluster 1: Area 5: Quantitative Reasoning)
		PHYS105	General Physics I	3	Gen Ed Course (Cluster 3: Area 1: Natural Sciences)
		CSBP119	Algorithms and Problem Solving	3	Gen Ed Course (Cluster 1: Area 4: Critical Thinking)
		ESPU102	Introduction to Academic English For Science	3	Gen Ed Course (Cluster 1: Area 2: English Communication)
		Elective	Student choice	3	Gen Ed Course (Cluster 2: Area 1: Humanities and Fine Arts)
				15	
Year 2	3 (Fall)	MATH210	Calculus III	3	Major 1
		MATH205	Set Theory and Logic	3	Major 1
		MATH275	Ordinary Differential Equations	3	Major 1
		GEIE222	Fundamentals of Innovation and Entrepreneurship	3	Gen Ed Course (Cluster 1: Area 1: Innovation and Entrepreneurship)
		GEEM105	Emirates Studies	3	Gen Ed Course (Cluster 2: Area 3: Emirates Society)
		GEIE222	Fundamentals of Innovation and Entrepreneurship	3	Gen Ed Course (Cluster 3: Area 2: Sustainability)
				18	
Year 3	5 (Fall)	MATH215	Introduction to Analysis	3	Major 1
		MATH340	Abstract Algebra 1	3	Major 1
		Elective	Student choice	3	Major Elective
		Elective	Student choice	3	Support course
		STAT230	Principles of Probability	3	Support course
				15	
Year 4	7 (Fall)	Elective	Student choice	3	Major Elective
		ENG310	Writing for Research	3	Support course
		Elective	Student choice	3	Support course
		Elective	Student choice	3	Support course
		Elective	Student choice	3	Free Elective
				15	

	Semester	Course Code	Course Title	CH	Course type
Year 1	2 (Spring)	MATH110	Calculus II	3	Major 1
		PHYS110	General Physics II	3	Support course
		MATH140	Linear Algebra I	3	Major 1
		Elective	Student choice	3	Gen Ed Course (Cluster 2: Area 2: Social and Behavioral Sciences)
		GESU121	Sustainability	3	Gen Ed Course (Cluster 3: Area 2: Sustainability)
		CSBP224	Introduction to Data Science	3	Support course
				18	
Year 2	4 (Spring)	MATH246	Number Theory	3	Major 1
		MATH315	Complex Analysis I	3	Major 1
		MATH320	Numerical Analysis I	3	Major 1
		Elective	Student choice	3	Major Elective
		GEIS100/GEIS101	Islamic Culture/Biography of the Prophet "Sira"	3	Gen Ed Course (Cluster 2: Area 4: Islamic Culture)
				15	
Year 3	6 (Spring)	MATH310	Real Analysis	3	Major 1
		MATH372	Partial Differential Equations	3	Major 1
		Elective	Student choice	3	Major Elective
		Elective	Student choice	3	Support course
		Elective	Student choice	3	Free Elective
				15	
Year 4	8 (Spring)	MATH495	Research Project	3	Major 1
		MATH500	Internship	6	Internship
				9	

Bachelor of Sicience in Mathematics Model Study Plan (2025-2026 Cohort onwards)

For Students Admitted to the University from the Fall Semester
Total Degree Credit hours: 120

	Semester	Course Code	Course Title	CH	Course type
Year 1	1 (Fall)	MATH105	Calculus I	3	Specialization
		PHYS105	General Physics I	3	Support course
		CSBP119	Algorithms and Problem Solving	3	Support course
		GEAE101	Academic English for Humanities and STEM	3	Gen. Ed. Theme 2: Academic Language Proficiency
		GEEM110	Contemporary Emirati Studies	3	Gen. Ed. Theme 1: UAE National Identity
				15	
Year 2	3 (Fall)	MATH210	Calculus III	3	Specialization
		MATH205	Set Theory and Logic	3	Specialization
		MATH275	Ordinary Differential Equations	3	Specialization
		Elective	Student choice	3	Gen. Ed. Theme 6 or 7 or 8 or 9 or 10 or 11
		GEIT113	Introduction to Artificial Intelligence	3	Gen. Ed. Theme 3: Innovation
				15	
Year 3	5 (Fall)	MATH215	Introduction to Analysis	3	Specialization
		MATH340	Abstract Algebra 1	3	Specialization
		Elective	Student choice	3	Math/Sci Elective
		Elective	Student choice	3	Support Elective
		STAT230	Principles of Probability	3	Support course
		Elective	Student choice	3	Free Elective
				15	
Year 4	7 (Fall)	MATH462	Introduction to Topology	3	Specialization
		ENG310	Writing for Research	3	Support course
		Elective	Student choice	3	Math/Sci Elective
		Elective	Student choice	3	Support Elective
		Elective	Student choice	3	Support Elective
				15	

	Semester	Course Code	Course Title	CH	Course type
Year 1	2 (Spring)	MATH110	Calculus II	3	Specialization
		PHYS110	General Physics II	3	Support course
		MATH140	Linear Algebra I	3	Specialization
		Elective	Student choice	3	Gen. Ed. Theme 6 or 7 or 8 or 9 or 10 or 11
		GESU121	Sustainability	3	Gen. Ed. Theme 5: Sustainability
		CSBP224	Introduction to Data Science	3	Support course
				18	
Year 2	4 (Spring)	MATH246	Number Theory	3	Specialization
		MATH315	Complex Analysis I	3	Specialization
		MATH320	Numerical Analysis I	3	Specialization
		Elective	Student choice	3	Math/Sci Elective
		GEIE222	Fundamentals of Innovation and Entrepreneurship	3	Gen. Ed. Theme 4: Entrepreneurship
				15	
Year 3	6 (Spring)	MATH310	Real Analysis	3	Specialization
		MATH372	Partial Differential Equations	3	Specialization
		Elective	Student choice	3	Math/Sci Elective
		Elective	Student choice	3	Support Elective
		Elective	Student choice	3	Free Elective
				15	
Year 4	8 (Spring)	MATH495	Research Project	3	Specialization
		MATH500	Internship	6	Internship
				9	