Curriculum Structure for Master's Program
Department of Applied Mathematics, National University of Tainan
Applicable to students entering in the 2025 (114) Academic Year

Graduation Requirements:

- **Total Credits: 28 Credits (Master's Thesis excluded)**
- **Core Requirements (R): 7 Credits**
- **Elective Courses (E): 21 Credits**

Category		Course Name	Type	Credits	Hours	Note
(R)		Research Methodology	(R)	3	3	
		Seminar(I)	(R)	2	2	
		Seminar(II)	(R)	2	2	
	Applied Mathematics Track	General Algebra	(E)	3	3	
		General Analysis	(E)	3	3	
		Field Theory	(E)	3	3	
		Theory of Fuzzy sets (I)	(E)	3	3	
		Theory of Fuzzy sets (II)	(E)	3	3	
		Topics in Algebra	(E)	3	3	
		Thesis Writing in Mathematics	(E)	3	3	
		Real Analysis	(E)	3	3	
		Approximation Theory in Hilbert Spaces	(E)	3	3	
		Regression Analysis with Fuzzy Data	(E)	3	3	
		Fuzzy Mathematics	(E)	3	3	
		Topics in Fuzzy Mathematics	(E)	3	3	
		Advanced Discrete Mathematics	(E)	3	3	

		Advanced Combinatiorics	(E)	3	3	
		Applied Combinatorics	(E)	3	3	

		Applied Algebra	(E)	3	3	
		Ordinary Differential Equations	(E)	3	3	
		Topics in Ordinary Differential Equations	(E)	3	3	
		Partial Differential Equations	(E)	3	3	
		Topics in Mathematical Biology	(E)	3	3	
		Scientific Computing	(E)	3	3	
		Switching Networks	(E)	3	3	
		Graph Theory	(E)	3	3	
		Numerical Methods for Differential Equations	(E)	3	3	
		Dynamical Systems	(E)	3	3	
		Topics in Dynamical Systems	(E)	3	3	
		Fuzzy Linear Systems (I)	(E)	3	3	
		Fuzzy Linear Systems (II)	(E)	3	3	
		Matrix Computation	(E)	3	3	
		Geometric Analysis and Applications (I)	(E)	3	3	
		Geometric Analysis and Applications (II)	(E)	3	3	
		Cryptography	(E)	3	3	
		Financial Mathematics	(E)	3	3	
		Other				
		Quantitative Research in Mathematics Education	(E)	3	3	

	Mathematics Education Track	Qualitative Research in Mathematics Education	(E)	3	3	
		Methods in Educational Research	(E)	3	3	
		Topics in Thesis Writing	(E)	3	3	
		Study of Mathematics Misconceptions	(E)	3	3	
		Design and Analysis of Mathematical Puzzles	(E)	3	3	

		Advanced Study of Mathematics Games	(E)	3	3	
		Design and Analysis of Mathematics Remedial Teaching	(E)	3	3	
		Study of Mathematics Problem Solving	(E)	3	3	
		Advanced Educational Statistics	(E)	3	3	
		Study of Mathematics Curriculum Theory	(E)	3	3	
		Study of Mathematics Cognition Development	(E)	3	3	
		Research in the Psychology of Learning Mathematics	(E)	3	3	
		Teaching Content and Methods in Mathematics(I)	(E)	3	3	
		Teaching Content and Methods in Mathematics (II)	(E)	3	3	
		Development of Number and Quantity Concepts(I)	(E)	3	3	
		Development of Number and Quantity Concepts(II)	(E)	3	3	
		Study of Mathematics Teaching	(E)	3	3	
		The Growth of Mathematics Teacher	(E)	3	3	
		Design of Mathematics Teaching Evaluation	(E)	3	3	
		Action Study of Mathematics	(E)	3	3	
		Production of Mathematics Material	(E)	3	3	
		Research in Computer-Assisted Instruction	(E)	3	3	

		Evaluation of Computer Teaching	(E)	3	3	
		Computer Diagnosis and Teaching Remedy System	(E)	3	3	
		Design of Global Web Information into Teaching	(E)	3	3	
		Design and Analysis of Science Fair	(E)	3	3	
		Applied Mathematics Softwares	(E)	3	3	
		Mathematical problem solving and logic	(E)	3	3	

		Development of Space and Shape	(E)	3	3	
		Development of Algebraic	(E)	3	3	
		Development of Data and Uncertainty	(E)	3	3	
		Academic Writing	(E)	3	3	
		Other				