

NED UNIVERSITY OF ENGINEERING & TECHNOLOGY
CLOs of MT Courses

MT-100 Introduction to Mathematics

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1	Identify functions and apply differential and integral calculus to interpret the physical systems and processes.	PLO-1	C1
2	Demonstrate the concept of different coordinate systems; identify counting techniques and binomial theorem.	PLO-2	C3
3	Demonstrate the concept of real and complex algebra, and Interpret matrices and determinants.	PLO-2	C5

MT-111 Calculus

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1	Identify functions and sketch their graphs using tools of calculus in relevant engineering problems.	PLO-1	C1
2	Apply differential and integral calculus to interpret the physical systems and processes.	PLO-2	C3
3	Identify real and complex numbers and Develop the concept of 3D geometry.	PLO-2	C6

MT-112 Mathematics for Architects

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1	Identify functions and sketch their graphs using tools of calculus in relevant engineering problems.	PLO-1	C1
2	Apply differential and integral calculus to interpret the physical systems and processes.	PLO-2	C3
3	Demonstrate the concept of 3D geometry and Interpret matrices and determinants.	PLO-2	C5
4	Evaluate the measures of central tendency, dispersion, and probability and apply them in relevant engineering problems.	PLO-2	C5

MT-114 Calculus

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1	Identify functions and sketch their graphs using tools of calculus in relevant engineering problems.	PLO-1	C1
2	Apply differential and integral calculus to interpret the physical systems and processes.	PLO-2	C3
3	Identify real and complex numbers and determine the behavior of sequence and series.	PLO-2	C1

MT-171 Differential & Integral Calculus

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1	Identify functions and sketch their graphs using tools of calculus in relevant engineering problems.	PLO-1	C1
2	Apply differential and integral calculus to interpret the physical systems and processes.	PLO-2	C3
3	Identify real and complex numbers and apply vector calculus to evaluate area and volume.	PLO-2	C5

MT-173 Calculus

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1	Identify functions and sketch their graphs using tools of calculus in relevant engineering problems.	PLO-1	C1
2	Apply differential and integral calculus to interpret the physical systems and processes.	PLO-2	C3
3	Identify real and complex numbers and apply vector calculus to evaluate area and volume.	PLO-2	C5

MT-214 Applied Statistics

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive
1	Understanding the fundamental concepts in Probability and Statistics	1	C2
2	Analyze on data & produce mathematical probabilistic models for different problems and to interpret the results.	2	C4
3	Apply the rules and algorithms of Probability and Statistics to their relevant engineering problems.	4	C3

MT-215 DIFFERENTIAL EQUATIONS & COMPLEX VARIABLE

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	ANALYZE physical situations whose behavior can be described by differential equations.	1	C4
2.	APPLY appropriate methods to solve differential equations and complex integrals.	2	C3

MT-221 LINEAR ALGEBRA & ORDINARY DIFFERENTIAL EQUATIONS

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	ANALYZE physical situations whose behavior can be described by differential equations and System of linear equations.	1	C4
2.	APPLY appropriate methods to solve differential equations and system of linear equations.	2	C3

MT-222 LINEAR ALGEBRA & ORDINARY DIFFERENTIAL EQUATIONS

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	ANALYZE physical situations whose behavior can be described by differential equations and System of linear equations.	1	C4
2.	APPLY appropriate methods to solve differential equations and system of linear equations. EVALUATE multiple integrals.	2	C5

MT-223 ORDINARY DIFFERENTIAL EQUATIONS & FOURIER SERIES

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	ANALYZE physical situations whose behavior can be described by differential equations.	1	C4
2.	APPLY appropriate methods to solve differential equations.	2	C3

MT-224 COMPLEX VARIABLE & FOURIER SERIES

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	APPLY techniques and tools of Laplace and integral transform for solution of differential equations.	1	C5
2.	EVALUATE complex integrals. DISCUSS the Fourier series & infinite series.	2	C5

MT-225 LINEAR ALGEBRA & ORDINARY DIFFERENTIAL EQUATIONS

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	ANALYZE physical situations whose behavior can be described by differential equations and System of linear equations.	1	C4
2.	APPLY appropriate methods to solve differential equations and system of linear equations. EVALUATE Laplace transform.	2	C5

MT-227 DIFFERENTIAL EQUATIONS

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	ANALYZE physical situations whose behavior can be described by differential equations.	1	C4
2.	APPLY appropriate methods to solve differential equations. EVALUATE Laplace transform.	2	C3

MT-228 COMPLEX VARIABLE & FOURIER TRANSFORMS

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	APPLY method of series solution for solution of differential equations.	1	C5
2.	EVALUATE complex integrals. DISCUSS the Fourier series & infinite series.	2	C5

MT-229 Probability & Statistics

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive
1	Understanding the fundamental concepts in Probability and Statistics	1	C2
2	Analyze on data & produce mathematical probabilistic models for different problems and to interpret the results.	2	C4
3	Apply the rules and algorithms of Probability and Statistics to their relevant engineering problems.	4	C3

MT-252 Introduction to Probability & Statistics

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive
1	Understanding the fundamental concepts in Probability and Statistics	1	C2
2	Analyze on data & produce mathematical probabilistic models for different problems and to interpret the results.	2	C4
3	Apply the rules and algorithms of Probability and Statistics to their relevant engineering problems.	4	C3

MT-271 ORDINARY DIFFERENTIAL EQUATIONS & COMPLEX VARIABLE

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	ANALYZE physical situations whose behavior can be described by differential equations.	1	C4
2.	APPLY techniques and tools of Laplace transform for solution of differential equations.	2	C3

MT-272 LINEAR ALGEBRA & GEOMETRY

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	ANALYZE physical situations whose behavior can be described by System of linear equations.	1	C4
2.	APPLY appropriate methods to solve system of linear equations. DISCUSS equations of surfaces.	2	C3

MT-315 MATHEMATICAL METHODS

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	ANALYZE physical situations whose behavior can be described by System of linear equations.	1	C4
2.	APPLY appropriate methods to solve system of linear equations. EVALUATE multiple integrals. DISCUSS equations of surfaces.	2	C5

MT-330 Applied Probability & Statistics

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive
1	Understanding the fundamental concepts in Probability and Statistics	1	C2
2	Analyze on data & produce mathematical probabilistic models for different problems and to interpret the results.	2	C4
3	Apply the rules and algorithms of Probability and Statistics to their relevant engineering problems.	4	C3

MT-331 Probability & Statistics

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive
1	Understanding the fundamental concepts in Probability and Statistics	1	C2
2	Analyze on data & produce mathematical probabilistic models for different problems and to interpret the results.	2	C4
3	Apply the rules and algorithms of Probability and Statistics to their relevant engineering problems.	4	C3

MT-332 ADVANCED CALCULUS & LINEAR ALGEBRA

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	ANALYZE physical situations whose behavior can be described by System of linear equations.	1	C4
2.	APPLY appropriate methods to solve system of linear equations. EVALUATE multiple integrals.	2	C5

MT-333 ADVANCED CALCULUS & FOURIER ANALYSIS

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	ANALYZE physical situations whose behavior can be described by partial differential equations and multiple integrals.	1	C4
2.	APPLY appropriate methods to solve partial differential equations. DISCUSS Fourier series. EVALUATE multiple integrals.	2	C5

MT-335 Probability & Statistics

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive
1	Understanding the fundamental concepts in Probability and Statistics	1	C2
2	Analyze on data & produce mathematical probabilistic models for different problems and to interpret the results.	2	C4
3	Apply the rules and algorithms of Probability and Statistics to their relevant engineering problems.	4	C3

MT-337 Introduction to Statistics

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive
1	Understanding the fundamental concepts in Probability and Statistics	1	C2
2	Analyze on data & produce mathematical probabilistic models for different problems and to interpret the results.	2	C4
3	Apply the rules and algorithms of Probability and Statistics to their relevant engineering problems.	4	C3

MT-441 Advanced Mathematical Techniques

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	To develop numerical methods as an alternate to analytical methods of mathematics.	2	C6
2.	To apply numerical methods to different complex engineering problems.	1	C3

MT-442 Numerical Methods

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	To develop numerical methods as an alternate to analytical methods of mathematics.	2	C6
2.	To apply numerical methods to different complex engineering problems.	1	C3

MT-443 Numerical Analysis

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	To develop numerical methods as an alternate to analytical methods of mathematics.	2	C6
2.	To apply numerical methods to different complex engineering problems.	1	C3

MT-471 Advance Numerical Methods

CLO	Description	Mapping with PLOs	Taxonomy-Cognitive (Maximum Level)
1.	To develop numerical methods as an alternate to analytical methods of mathematics.	2	C6
2.	To apply numerical methods to different complex engineering problems.	1	C3