

**ESKİŞEHİR OSMANGAZİ UNIVERSITY**  
**DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCES**  
**PRE-2024 ACADEMIC PROGRAM**

1. GRADE															
1. TERM					2. TERM										
CODE	COURSE NAME	T	P	C	ECTS	CODE	COURSE NAME	T	P	C	ECTS				
821611001	Analysis I	3	2	4	6	821612001	Analysis II	3	2	4	6				
821611002	Analytic Geometry I	3	0	3	4	821612002	Analytic Geometry II	3	0	3	4				
821611003	Abstract Mathematics	3	0	3	5	821612003	Discrete Mathematics	3	0	3	5				
821611005	Basic Information Technologies I	3	0	3	4	821612005	Basic Information Technologies II	3	0	3	4				
821611007	Computer Programming I	3	0	3	4	821612007	Computer Programming II	3	0	3	4				
821611004	H.T.R.P.A. I	2	0	2	2	821612004	H.T.R.P.A. II	2	0	2	2				
821611006	Turkish Language I	2	0	0	2	821612006	Turkish Language II	2	0	0	2				
	English I	3	0	0	3		English II	3	0	0	3				
	Social Elective I (1 Course)	1	0	0	1		Social Elective II (1 Course)	1	0	0	1				
<b>Total :</b>					<b>23/22</b>	<b>2/3</b>	<b>18</b>	<b>30</b>	<b>Total :</b>			<b>23/22</b>	<b>2/3</b>	<b>18</b>	<b>30</b>

Social Elective I Courses				Social Elective II Courses			
	Physical Education I		The Art of Writing I		Physical Education II		The Art of Writing II
	Turkish Decorative Art I		First-Aid I		Turkish Decorative Art II		First-Aid II
	Garden Mnt. and Greenhouse Cultiv. I				Garden Mnt. and Greenhouse Cultiv. II		

2. GRADE															
3. TERM					4. TERM										
CODE	COURSE NAME	T	P	C	ECTS	CODE	COURSE NAME	T	P	C	ECTS				
821613001	Analysis III	3	0	3	5	821614001	Analysis IV	3	0	3	5				
821613002	Linear Algebra I	3	0	3	5	821614002	Linear Algebra II	3	0	3	5				
821613003	Differential Equations	3	0	3	5	821614003	Mathematical Physics	3	0	3	5				
821613004	Computer Architecture	3	0	3	5	821614004	Probability and Statistics	3	0	3	5				
821613005	Visual Programming I	3	0	3	5	821614005	Visual Programming II	3	0	3	5				
	Elective Math I (1 Course)	3	0	3	5		Elective Math II (1 Course)	3	0	3	5				
<b>Total :</b>					<b>18</b>	<b>0</b>	<b>18</b>	<b>30</b>	<b>Total :</b>			<b>18</b>	<b>0</b>	<b>18</b>	<b>30</b>

Elective Math I Courses				Elective Math II Courses			
821613006	Numerical Analysis I	821613007	Techniquial English I	821614006	Numerical Analysis II	821614007	Techniquial English II
821612008	Graph Theory and App. I			821614008	Graph Theory and Apps. II	821614009	Number Theory

3. GRADE															
5. TERM					6. TERM										
CODE	COURSE NAME	T	P	C	ECTS	CODE	COURSE NAME	T	P	C	ECTS				
821615001	Abstract Algebra	3	0	3	5	821616001	Topology	3	0	3	5				
821615002	Differential Geometry	3	0	3	5	821616002	Complex Analysis	3	0	3	5				
821615003	Symbolic Computations I	3	0	3	5	821616003	Algorithms	3	0	3	5				
821615004	Mathematical Writing and Design	3	0	3	5	821616004	Categories, Types and Structures	3	0	3	5				
	Elective Math III (1 Course)	3	0	3	5		Elective Math IV (1 Course)	3	0	3	5				
	Elective Computer I (1 Course)	3	0	3	5		Elective Computer II (1 Course)	3	0	3	5				
<b>Total :</b>					<b>18</b>	<b>0</b>	<b>18</b>	<b>30</b>	<b>Total :</b>			<b>18</b>	<b>0</b>	<b>18</b>	<b>30</b>

Elective Math III Courses				Elective Math IV Courses			
821615005	Partial Differential Equations	821615007	Applied Statistics	821616005	Applied Mathematics	821616007	Applied Algebra
821615006	Linear Programming			821616006	Applied Differential Geo.		

Elective Computer I Courses				Elective Computer II Courses			
821615008	Web Programming I	821615009	Simulation Techniques	821616008	Web Programming II	821616010	Web Based Apps.
821615010	Database Mgmt. Systems	821615011	Data Security	821616009	Symbolic Computation II		
821615012	Functional Programming						

7. TERM															
7. TERM					8. TERM										
CODE	COURSE NAME	T	P	C	ECTS	CODE	COURSE NAME	T	P	C	ECTS				
821617001	Java	3	0	3	5	821618001	Cryptography	3	0	3	5				
	Compulsory Elective I (Graduation Project)	2	2	3	5		Compulsory Elective II (Graduation Project)	2	2	3	5				
	Elective Math V (2 Courses)	6	0	6	10		Elective Math VI V (2 Courses)	6	0	6	10				
	Elective Computer III (2 Courses)	6	0	6	10		Elective Computer IV (2 Courses)	6	0	6	10				
<b>Total :</b>					<b>17</b>	<b>2</b>	<b>18</b>	<b>30</b>	<b>Total :</b>			<b>17</b>	<b>2</b>	<b>18</b>	<b>30</b>

Elective Math V Courses				Elective Math VI Courses			
821617002	Functional Analysis I	821617005	Metric Topology	821618002	Functional Analysis II	821618003	Homological Algebra
821617003	Algebra	821617006	Projective Geometry I	821618004	Algebraic Topology	821618005	Fuzzy Logic
821617004	Module Theory	821617007	Motion Geometry	821618006	Projective Geometry II	821618007	Fractal Geometry

Elective Computer III Courses				Elective Computer IV Courses			
821617009	Game Theory	821617010	Data Mining	821618008	Formal Languages and Automata	821618009	Artificial Neural Network
821617008	Artificial Intelligence	821617011	Hardware	821618010	Computer Graphics	821618011	Android Programming

Compulsory Elective I (Graduation Project) Courses				Compulsory Elective II (Graduation Project) Courses			
821617012	Non-Euclidean Geometries I	821617015	Geometric Transformations I	821618012	Non-Euclidean Geometries II	821618015	Geometric Transformations II
821617014	Quadratic Geometries I	821617017	Differential Eqs. with Mathematica I	821618014	Quadratic Geometries II	821618019	Differential Eqs. with Mathematica II
821617016	Math, Nature and Art I	821617033	Linear Geometry I	821618017	Math, Nature and Art II	821618023	Linear Geometry II
821617013	Timelike Curves and Surfaces I	821617020	Maple I	821618021	Timelike Curves and Surfaces II	821618028	Maple II
821617018	Topics in Ordinary Differential Eqs. I		Difference Equations I	821618025	Topics in Ordinary Differential Eqs. II		Difference Equations II
821617019	Applications of Category Theory I	821617024	Commutative Algebra I	821618027	Applications of Category Theory II		Commutative Algebra II
821617021	Topological Groups I	821617026	Finite Geometries I		Topological Groups II		Finite Geometries II
821617022	Models of Real Projective Plane I	821617028	Internet Programming I		Models of Real Projective Plane II		Internet Programming II
821614025	Fundamental Groups I	821617030	Geometric Structures I	821618030	Fundamental Groups II		Geometric Structures II
821617027	Integral Equations I	821617031	Abstract Algebra with Mathematica I	821618024	Integral Equations II		Abstract Algebra with Mathematica II
821617029	Mathematical Computing with Visual C++ I	821617021	Apps. of Numerical Solutions of the Partial Differential Eqs. I		Mathematical Computing with Visual C++ II		Apps. of Numerical Solutions of the Partial Differential Eqs. II