

FACULTY OF ARTS AND SCIENCES

Department of Mathematics

Course Code	Course Name	METU Credits	ECTS Credits
1st Semester			
MATH 111	Fundamentals of Mathematics	(3-0)3	4.5
MATH 115	Analytic Geometry	(3-0)3	4.5
MATH 153	Calculus for Mathematics Students I	(4-2)5	7.5
PHYS 111	Physics I (Mechanics)	(4-2)5	7.5
ENG 101	Development of Reading and Writing Skills I	(4-0)4	6
Total		20	30
2nd Semester			
MATH 112	Introductory Discrete Mathematics	(3-0)3	4.5
MATH 116	Basic Algebraic Structures	(3-0)3	4.5
MATH 154	Calculus for Mathematics Students II	(4-2)5	7.5
PHYS 112	Physics II (Electricity and Magnetism)	(4-2)5	7.5
ENG 102	Development of Reading and Writing Skills II	(4-0)4	6
IS 100	Introduction to Information Technologies and Applications	(0-0)0	NC
Total		20	30
Year Total		40	60
3rd Semester			
MATH 251	Advanced Calculus I	(4-0)4	10
MATH 261	Linear Algebra I	(4-0)4	10
CENG 230	Introduction to C Programming	(2-2)3	4
ENG 211	Academic Oral Presentation Skills	(3-0)3	4
HIST 2201	Principles of Kemal Atatürk I	(0-0)0	NC
Total		14	28

4th Semester

MATH 252	Advanced Calculus II	(3-2)4	10
MATH 255	Introduction to Differential Equations I	(4-0)4	7
MATH 262	Linear Algebra II	(4-0)4	9
HIST 2202	Principles of Kemal Atatürk II	(0-0)0	NC
	A non-departmental Elective	(3-0)3	6
	Total	15	32
	Year Total	29	60

5th Semester

MATH 349	Int. to Math. Analysis	(4-0)4	8
MATH 353	Complex Calculus	(4-0)4	8
MATH 367	Abstract Algebra	(3-2)4	9
TURK 303	Turkish I	(0-0)0	NC
	A non-departmental Elective	(3-0)3	6
	Total	15	31

6th Semester

MATH 358	Partial Differential Equations	(4-0)4	10
MATH 371	Differential Geometry	(3-0)3	9
TURK 304	Turkish II	(0-0)0	NC
ENG 311	Advanced Communication Skills	(3-0)3	4
	A departmental Elective	(3-0)3	6
	Total	13	29
	Year Total	28	60

7th Semester

A Departmental Elective	(3-0)3	6
A Departmental Elective	(3-0)3	6
A Departmental Elective	(3-0)3	6
A non-Departmental Elective	(3-0)3	6
A Free Elective	(3-0)3	6
Total	15	30

8th Semester

A Departmental Elective	(3-0)3	6
A Departmental Elective	(3-0)3	6
A Departmental Elective	(3-0)3	6
A Free Elective	(3-0)3	6
A Free Elective	(3-0)3	6
Total	15	30
Year Total	30	60

TOTAL NUMBER OF COURSES**41****TOTAL CREDITS****127****240**

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Other Undergraduate Courses Offered by the Department

Course Code	Course Name	METU Credits	ECTS Credits
2360 125	Basic Mathematics I	(3-2)4	5
2360 126	Basic Mathematics II	(3-2)4	5
2360 151	Calculus I	(4-2)5	7.5
2360 152	Calculus II	(4-2)5	7.5
2360 155	Calculus I (Accelerated)	(4-2)5	8
2360 156	Calculus II (Accelerated)	(4-2)5	8
2360 157	Basic Calculus I	(3-2)4	7
2360 158	Basic Calculus II	(3-2)4	7
2360 201	Elementary Geometry	(3-0)3	8
2360 223	Introduction to Object Oriented Programming and C++	(3-0)3	6
2360 250	Advanced Calculus in Statistics	(4-2)5	9
2360 253	Introduction to Ordinary Differential Equations	(3-0)3	5
2360 254	Differential Equations	(4-0)4	7
2360 258	Differential Equations II	(3-0)3	6
2360 260	Basic Linear Algebra	(3-0)3	5
2360 263	Honors' Linear Algebra I	(4-0)4	8
2360 264	Honors' Linear Algebra II	(4-0)4	8
2360 271	Mathematical Analysis I	(4-0)4	5
2360 272	Mathematical Analysis II	(4-0)4	5
2360 301	Introduction to Probability Theory	(3-0)3	6
2360 303	History of Mathematical Concepts I	(3-0)3	6
2360 304	History of Mathematical Concepts II	(3-0)3	6
2360 319	Lebesgue Integral	(3-0)3	6
2360 320	Set Theory	(3-0)3	6
2360 321	Automata and Languages	(3-0)3	6
2360 341	Graph Theory I	(3-0)3	6
2360 344	Introduction to Universal Algebra	(3-0)3	6
2360 355	Operational Calculus	(3-0)3	6
2360 365	Elementary Number Theory I	(3-0)3	6
2360 366	Elementary Number Theory II	(3-0)3	6
2360 368	Field Extensions and Galois Theory	(3-0)3	6

2360 373	Geometries I	(3-0)3	6
2360 374	Geometries II	(3-0)3	6
2360 375	Periodic Distributions and Fourier Series	(3-0)3	6
2360 381	Numerical Analysis I	(3-0)3	6
2360 382	Numerical Analysis II	(3-0)3	6
2360 385	Special Functions of Applied Mathematics I	(3-0)3	6
2360 386	Special Functions of Applied Mathematics II	(3-0)3	6
2360 387	Advanced Object Oriented Programming	(3-0)3	6
2360 388	Data Structures	(3-0)3	6
2360 390	Computer Algebra	(3-0)3	6
2360 395	Symbolic Programing Languages (Prolog)	(3-0)3	6
2360 396	Artificial Intelligence and Applications	(3-0)3	6
2360 400	Basic Distribution Theory	(3-0)3	6
2360 401	Probability Theory	(3-0)4	6
2360 402	Introduction to Optimization	(3-0)3	6
2360 403	Fundations of Mathematics	(3-0)3	6
2360 404	Introduction to Vector Lattices and Applications	(3-0)3	6
2360 406	Introduction to Mathematical Logic and Model Theory	(3-0)3	6
2360 410	Modeling Mathematical Methods and Scientific Computing	(3-0)3	6
2360 420	Elementary Point Set Topology	(3-0)3	6
2360 422	Elementary Geometric Topology	(3-0)3	6
2360 441	Mechanics I	(3-0)3	6
2360 442	Mechanics II	(3-0)3	6
2360 444	Topics in Universal Algebra	(3-0)3	6
2360 450	Potential Theory in The Complex Plane	(3-0)3	6
2360 452	Introduction to Functional Analysis	(3-0)3	6
2360 453	Introduction to Complex Analysis	(3-0)3	6
2360 454	Geometric Complex Analysis	(3-0)3	6
2360 456	Fourier Analysis and Wavelets	(3-0)3	6
2360 457	Calculus on Manifolds	(3-0)3	6
2360 461	Rings and Modules	(3-0)3	6
2360 463	Introductino to Group Theory	(3-0)3	6
2360 464	Introduction to Representation Theory	(3-0)3	6
2360 466	Groups and Geometry	(3-0)3	6
2360 470	File Structures	(3-0)3	6

2360 471	Hyperbolic Geometry	(3-0)3	6
2360 473	Ideals, Varieties and Algorithms	(3-0)3	6
2360 474	Introduction to Computational Algebraic Geometry	(3-0)3	6
2360 476	Algebraic Curves	(3-0)3	6
2360 478	Mathematical Aspects of Cryptography	(3-0)3	6
2360 481	Numerical Solutions of Ordinary Differential Equations	(3-0)3	6
2360 482	Numerical Solution of Partial Differential Equations	(3-0)3	6
2360 484	Algorithms and Complexity	(3-0)3	6
2360 486	Fundamentals of Database Systems	(2-2)3	6
2360 487	Applied Mathematics I	(3-0)3	6
2360 488	Applied Mathematics II	(3-0)3	6
2360 489	Dynamical Systems	(3-0)3	6
2360 490	Difference Equations	(3-0)3	6
2360 492	Numerical Optimization	(3-0)3	6
2360 493	Philosophy of Mathematics	(3-0)3	6
2360 494	The Design of Mathematical Software	(3-0)3	6
2360 496	Supervised Independent Study and Research	(2-0)2	4
2360 497	Hilbert Space Techniques	(3-0)3	6