Physics Minor

To earn the Physics Minor Certificate, PHYS 303, PHYS 304 and 2 courses among ENS 201 or PHYS 411, PHYS 412, PHYS 401, PHYS 302 must be taken. The extra courses taken from this pool, are directly counted towards "Core Elective" course requirements.

Year - 3 or 4 Semester - 5 or 7					
Course Code	**Course Name**	**Course Type**	**Prerequisite Courses**	**SU Credits**	**ECTS (Total)**
PHYS 303	Quantum Mechanics I	Required		3	6
			TERM TOTAL	**3**	**6**

Year - 3 or 4 Semester - 6 or 8					
Course Code	**Course Name**	**Course Type**	**Prerequisite Courses**	**SU Credits**	**ECTS Credits**
PHYS 304	Quantum Mechanics II	Required		3	6
			TERM TOTAL	**3**	**6**

Required Courses for the Physics Minor Program				
Students must take 4 courses (including PHYS 303 and PHYS 304) from the below list:				
Course Code	**Course Name**	**Course Type**	**SU Credits**	**ECTS**
ENS 201	Electromagnetics I	Required	3	6
PHYS 302	Solid State Physics	Required	3	6
PHYS 303	Quantum Mechanics I	Required	3	6
PHYS 304	Quantum Mechanics II	Required	3	6
PHYS 401	Classical Mechnaics	Required	3	6
PHYS 411	Electromagnetic Theory I	Required	3	7
PHYS 412	Statistical Mechanics	Required	3	6
Core Elective Courses for the Physics Minor Program				
Minimum 6 credits must be taken from the pool below:				
BIO 466	Biophysics: Molecules and Systems	Core Elective	3	6
CS 204	Advanced Programming	Core Elective	3	6
CS 210	Introduction to Data Science	Core Elective	3	6
CS 404	Artificial Intelligence	Core Elective	3	6
CS 406	Parallel Computing	Core Elective	3	6
CS 412	Machine Learning	Core Elective	3	6
EE 307	Semiconductor Physics and Devices	Core Elective	3	6
EE 403	Optoelectronics	Core Elective	3	6
EE 404	Introduction to Microelectromechanical Systems	Core Elective	3	6
EE 407	Microelectronic Fabrication	Core Elective	3	6
ENS 202	Thermodynamics	Core Elective	3	6
ENS 205	Introduction to Materials Science	Core Elective	3	6
ENS 207	Introduction to Energy Systems	Core Elective	3	6
ENS 303	Introduction to Space Technology	Core Elective	3	6
ENS 309	Computer Aided Engineering	Core Elective	3	6
ENS 315	Energy	Core Elective	3	5
ENS 409	Numerical Analysis	Core Elective	3	6
ENS 414	Experimental Methods in Nanoscience II	Core Elective	3	6
MATH 305	Complex Calculus	Core Elective	3	6
MATH 402	Hilbert Space Techniques	Core Elective	3	6
MATH 479	Calculus of Variations	Core Elective	3	6
MAT 204	Electrical, Optical and Magnetic Properties of Materials	Core Elective	3	6
MAT 306	Computational Techniques for Materials at the Nano-scale	Core Elective	3	6
MAT 308	Phase Equilibria	Core Elective	3	5
MAT 309	Transport Phenomena in Materials Processing	Core Elective	3	6
MAT 404	Polymer Physics	Core Elective	3	5
MAT 405	Advanced Materials Characterization	Core Elective	4	7
MAT 406	Nanoengineered Systems Fabrication	Core Elective	3	5
ME 307	Fluid Dynamics	Core Elective	3	6
ME 309	Heat and Mass Transfer	Core Elective	3	6
ME 409	Foundations of Microsystems	Core Elective	3	7
ME 415	Computational Analysis and Simulation	Core Elective	3	6
ME 420	Renewable and Sustainable Energy Systems	Core Elective	3	6
NS 200	Einstein's Relativity	Core Elective	3	5
NS 206	What is There in the Universe: Inside the Milky Way?	Core Elective	3	5
NS 209	What is there in the Universe: "Beyond the Milky Way"	Core Elective	3	5
NS 210	Water: Its Physics, Nanophysics, Chemistry and Geopolitics	Core Elective	3	5
NS 213	Doğa Bilimleri ve Mühendislik için Temel Fizik Kavramları	Core Elective	3	6
NS 214	Oscillations, Waves and Optics	Core Elective	3	6
NS 220	World Energy Outlook: The Coming Year	Core Elective	3	6
NS 222	Planetary Systems and Extrasolar Planets	Core Elective	3	5
NS 48000	Special Topics in NS: Astrobiology Fundamentals and Contemporary Research Topics	Core Elective	3	6
PHYS 211	Modern Physics	Core Elective	3	6
PHYS 438	Phase Transitions and Renormalization-Group Theory	Core Elective	3	6
PHYS 484	Quantum Computation and Quantum Information	Core Elective	3	6
PHYS 492	Modern Topics in Condensed Matter Physics	Core Elective	3	6