

UNIVERSITY OF CRAIOVA  
 Faculty of Sciences  
 Department: Physics (D2)  
 Hierarchical domain: Physics  
 Programme of studies: Theoretical Physics (MTP)  
 Duration of studies: 2 years  
 Full-time course

Approved starting with  
 the academic year 2022-2023

Sem. I		Sem. II
14	Weeks no./sem. if ≠ 14	14

CURRICULUM-First year (2022-2023)

Subject	Cod	A S C	OB OP F	Opt. 0/≥1	C1	S1	L1	P1	CT1	FV1	C2	S2	L2	P2	CT2	FV2	SI
<b>MANDATORY AND OPTIONAL SUBJECTS</b>																	
Quantum field theory	D2MTPM101	S	OB	1	2	2			8	E							144
Dynamics of degenerate systems	D2MTPM102	S	OB	1	2	2			8	E							144
Methods and multiscale problems in numerical simulations	D2MTPM103	S	OB	1	2		1		6	E							108
Introduction to General Relativity	D2MTPM104	S	OB	1	2	1			6	E							108
Ethics and academic integrity	D2MTPM105	S	OB	1	1				2	C							36
Theory and modeling of instabilities in plasma	D2MTPM206	A	OB	1							2	1			6	E	108
Hamiltonian BRST symmetry	D2MTPM207	S	OB	1							2	2			8	E	144
Kinetic equations	D2MTPM208	S	OB	1							2	2			8	E	144
Mathematical Physics I/ Coherent optics	D2MTPM209/ D2MTPM210	A	OP	1							2	1			5	C	83
Practice (2 weeks x 40 hours = 80 hours)	D2MTPM211	S	OB	2										5.7	3	V	
<b>TOTAL</b>					<b>9</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>30</b>		<b>8</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>30</b>		
<b>FACULTATIVE SUBJECTS</b>																	
<b>TOTAL</b>					<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Sem. I		Sem. II
14	Weeks no./sem. if ≠ 14	12

**CURRICULUM-Second year (2023-2024)**

Subject	Cod	A S C	OB OP F	Opt. 0/≥1	C1	S1	L1	P1	CT1	FV1	C2	S2	L2	P2	CT2	FV2	SI	
<b>MANDATORY AND OPTIONAL SUBJECTS</b>																		
Nonlinear dynamical systems	D2MTPM301	S	OB	1	2	2			8	E							144	
Many-particle physics	D2MTPM302	S	OB	1	2	2			8	E							144	
Mathematical Physics II/ Partially ordered systems	D2MTPM303/ D2MTPM304/	A	OP	1	2	1			7	E							133	
Introduction to supersymmetries and supergravity	D2MTPM305	A	OB	1	2	1			7	C							133	
Lagrangian BRST symmetry	D2MTPM406	S	OB	1							2	2			8	E	152	
Extended BRST symmetries	D2MTPM407	A	OB	1							2	1			6	E	144	
Interactions in field theory/ Theory of solid state	D2MTPM408/ D2MTPM409/	A	OP	1							2	1			6	E	114	
Scientific research laboratory	D2MTPM410	A	OB	1									3		5	C	89	
Elaboration of master dissertation (2 weeks x 40 hours = 80 hours)	D2MTPM411	A	OB	2										6.66	5	V	45	
<b>TOTAL</b>					<b>8</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>30</b>		<b>6</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>30</b>			
<b>FACULTATIVE SUBJECTS</b>																		
<b>TOTAL</b>					<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		