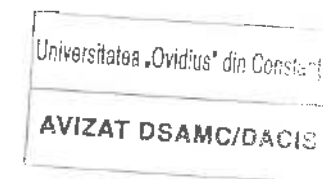
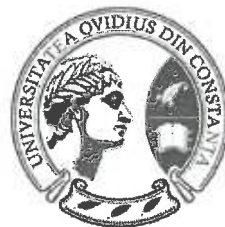


MINISTRY OF EDUCATION



"OVIDIUS" UNIVERSITY OF CONSTANȚA

GRADUATE SCHOOL IN THE MATHEMATICS

CURRICULUM

(contains 7 pages)

Domain:	MATHEMATICS
Cycle of studies:	III
Degree program:	PhD
Duration:	4 years
Type of program:	Full-time and part-time tuition

Valid as of the 2023 – 2024 academic year





Universitatea Ovidius din Constanța (IOSUD)
Școala doctorală de Matematică

Domeniul/domeniile de doctorat: Matematică
Ciclul de studii: III

Forma de învățământ: cu frecvență (IF);
frecvență redusă (FR)
Durata studiilor: 4 ani

1. THE MISSION OF THE STUDY PROGRAMME

Ovidius University of Constanta (OUC) has the mission to produce, maintain and distribute knowledge to the society through education, scientific research and artistic works at the EU levels. OUC is first concerned with Constanta town, but it has an important impact in the Black Sea area, in Europe and beyond it. Inside OUC the Faculty of Mathematics and Informatics (FMI) is a stable and strong structure, with teachers of a high scientific level, a good teaching schedule and having a top position among romanian universities. Through its mission, which follows the OUC one, FMI obtained and mentained at a top level the Bachelor and Master programmes in Mathematics and Informatics. In parallel was founded also the Doctoral School in Mathematics, according OM 7187/1992, OM 1805/2007 and HG 778/2015. According to its mission Doctoral School in Mathematics is developing highly qualified specialists for scientific research, who get the PhD degree after defending the PhD Thesis. The main objective of Doctoral School in Mathematics is to prepare top level scientists who can produce new and important results in different subdomains of Mathematics as well as in inter and/or transdisciplinary areas. Both in the University Advanced Studies step (first year of the PhD programme) and Scientific Research step (years 2 and 3 of the PhD programme) the PhD students get top level professional skills in the subdomains of Mathematics covered by the PhD advisors of the School: Numerical Analysis, Functional Analysis, Probabilities and Statistics, Solid Mechanics and Algebra, as well as cross-cutting skills.

A. Professional skills:

- a) an advanced knowledge in the (sub)domains of the PhD programme;
- b) identification and solution of the appropriate research problems;
- c) top level methods in advanced scientific research;
- d) the management of research projects;
- e) learning the principles of ethics in the scientific research;
- f) skills for writting scientific papers;

B. Cross-cutting skills:

- a) using the new technologies in information and communication;
- b) working in a research team;
- c) skills for leading professional and research teams;
- d) knowledge on plagiarism and copyright principles.



Rector,
Conf.univ.dr. Dan Marcel Iliescu

Director CSUD,
Prof.univ.dr. Monica Vlad

Director Școala doctorală,
Prof.univ.dr. Eduard Marius Crăciun



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2. QUALIFICATION, OPPORTUNITIES FOR THE INCLUSION IN THE LABOR MARKET (ACCORDING TO COR 2017)

Leader in the domain of research and/or development (1223), Leader in different level teaching institutions (1345), Researcher in Mathematics (212015), Researcher in Mechanics (212017), Researcher in matematica aplicata (212019), Researcher in Mathematical Physics (212021), Researcher in Mathematical Informatics (212023), 2330 Teachers in gymnasiums and high schools (2330), University teachers (2310)

3. ADMISSION

The admission colloquium at the PhD programme is held in the month of September, following a schedule approved by the OUC Senate. It consists on two challenges: an interview and an oral discussion upon a scientific subject proposed by the candidate according with the topics of the DSM.

4. EDUCATION QUALIFICATION

PhD diploma



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PLAN DE ÎNVĂȚĂMÂNT/ Programme of university advanced studies

APROBAT ÎN ȘEDINȚA SENATULUI UOC
DIN DATA DE:
28 SEP 2023
Președinte SENAT

Nr. crt.	Course ID	*C1	**C2	Courses	Number of hours per course													Total		
					First semester								Second semester					Total	Course	Applications
					SI	C	S	L	P	F.V.	CR	SI	C	S	L	P	F.V.			
				MODULE 1 – Functional Analysis																
1.	SDM31	DSP	DI	Special chapters of Functional Analysis I	126	2				E	5							24	24	
2.	SDM32	DSP	DI	Special chapters of Functional Analysis II	126	2				E	5							24	24	
3.	SDM33	DSP	DO	Special chapters of Integration Theory	126	2				C	5							24	24	
4.	SDM34	DSI	DC,DO	Methodology of scientific research																
5.	SDM35	DSP	DI	Bochner, Dunford and Pettis integrals	126	2				E	5							24	24	
6.	SDM36	DSP	DO	Scientific Writing	126	2				E	5							24	24	
7.	SDM37	DSI	DI	Ethics and academic integrity	126	2				E	5							24	24	
				Hours per week / number of verification procedures / ECTS	756	12				5e+1c	30							144	144	
				MODULE 2–Probability and Stochastic Processes																
8.	SDM41	DSP	DI	Measure theory and applications	126	2				E	5							24	24	
9.	SDM42	DSP	DI	Special classes of stochastic processes	126	2				E	5							24	24	
10.	SDM43	DSP	DO	Dynamical systems and applications	126	2				C	5							24	24	
11.	SDM44	DSI	DC,DO	Methodology of scientific research																
12.	SDM45	DSP	DI	Ergodic theory and applications	126	2				E	5							24	24	
13.	SDM36	DSP	DO	Scientific Writing	126	2				E	5							24	24	
14.	SDM37	DSI	DI	Ethics and academic integrity	126	2				E	5							24	24	
				Hours per week / number of verification procedures / ECTS	756	12				5e+1c	30							144	144	

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				MODULE 3 – Probabilities and Mathematical Statistics															
15.	SDM51	DSP	DI	Elements of Probability theory elements	126	2			E	5								24	24
16.	SDM52	DSP	DI	Risc models	126	2			E	5								24	24
17.	SDM53	DSI	DC,DO	Methodology of scientific research															
18.	SDM54	DSP	DO	Special chapters of Actuarial and Financial Mathematics	126	2			C	5								24	24
19.	SDM55	DSP	DI	Special chapters of Mathematical Statistics	126	2			E	5								24	24
20.	SDM36	DSP	DO	Scientific Writing	126	2			E	5									
21.	SDM37	DSI	DI	Ethics and academic integrity	126	2			E	5								24	24
				Hours per week / number of verification procedures / ECTS	756	12			5e+1c	30								144	144
				MODULE 4 – Solid Mechanics															
22.	SDM61	DSP	DI	Mathematical modeling of composite materials							126	2			E	5		24	24
23.	SDM62	DSP	DI	Integral transformations							126	2			E	5		24	24
24.	SDM63	DSP	DC,DO	Methodology of scientific research							126	2				5		24	24
25.	SDM64	DSI	DO	Numerical analysis of elastic bodies with cracks											C				
26.	SDM65	DSP	DI	Chapters of partial differential equations							126	2			E	5		24	24
27.	SDM36	DSP	DO	Scientific Writing	126	2			E	5									
28.	SDM37	DSI	DI	Ethics and academic integrity	126	2			E	5								24	24
				Hours per week / number of verification procedures / ECTS	252	4			2e	10	504	8			3e+1c	20		144	144
				MODULE 5 - Algebra							126								
29.	SDM71	DSP	DI	Fundamental Algebraic Structures							126	2			E	5		24	24
30.	SDM72	DSP	DI	Special classes of algebras. Applications							126	2			E	5		24	24
31.	SDM73	DSP	DO	Introduction in Cryptography								2			C	5		24	24



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Forma de învățământ: cu frecvență (IF);
frecvență redusă (FR)
Durata studiilor: 4 ani

32.	SDM74	DSI	DC,DO	Methodology of scientific research								126							
33.	SDM75	DSP	DI	Introducing in Coding Theory								126	2				E	5	24 24
34.	SDM36	DSP	DO	Scientific Writing	126	2			E	5									
35.	SDM37	DSI	DI	Ethics and academic integrity	126	2			E	5									24 24
				Hours per week / number of verification procedures / ECTS	252	4			2e	10	504	8				3e+1c	20	144	144
				MODULE 6 – Algebra															
36.	SDM81	DSP	DI	Fundamental Algebraic Structures								126	2				E	5	24 24
37.	SDM82	DSP	DI	Special classes of algebras. Applications								126	2				E	5	24 24
38.	SDM83	DSP	DO	Representation Theorems of Cassels and Pfister types								126	2				C	5	24 24
39.	SDM84	DSI	DC,DO	Methodology of scientific research															
40.	SDM85	DSP	DI	Quadratic forms over fields								126	2				E	5	24 24
41.	SDM36	DSP	DO	Scientific Writing	126	2			E	5									
42.	SDM37	DSI	DI	Ethics and academic integrity	126	2			E	5									24 24
				Hours per week / number of verification procedures / ECTS	252	4			2e	10	504	8				3e+1c	20	144	144
				MODULE 7 – Differential equations															
43.	SDM91	DSP	DI	Partial differential equations	126	2			E	5									24 24
44.	SDM92	DSP	DI	Maximum principles and their applications	126	2			E	5									24 24
45.	SDM93	DSI	DC,DO	Methodology of scientific research	126	2			C	5									24 24
46.	SDM94	DSP	DO	Functional Analysis	126	2													24 24
47.	SDM95	DSP	DI	Evolution Equations in Hilbert Spaces	126	2			E	5									24 24
48.	SDM36	DSP	DO	Scientific Writing	126	2			E	5									24 24
49.	SDM37	DSI	DI	Ethics and academic integrity	126	2			E	5									24 24
				Hours per week / number of verification procedures / ECTS	756	12			5e+1c	30									144 144

APROBAT ÎN ȘEDINȚA SENATULUI ÎNC.
DIN DATA
2-8 SEP 2023
Președinte SENAT

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LEGENDA: *C1 = the criterion of contents: DSP – speciality course, DSI – synthesis course, DCA – fundamental course.

**C2 = the criterion of binding: DI – mandatory course, DO – optional (non-mandatory) course, DC – complementary course,

SI – individual study, C – lecture, S – seminar, L – laboratory, P – project, CR – ECTS, FV – verification procedure, Ex – exam, C – colloquium.

Note. The students will select 5 mandatory courses, among them being “Ethics and academic integrity” and 1 optional (non-mandatory) course.

PROGRAMME OF SCIENTIFIC RESEARCH

	Nr.	Finalizare	ECTS
Project of scientific research	1	Colloquium	30
Report of scientific research defended in front of the PhD supervisor and Commission	3	Colloquium	20/report
Participation at international conferences	2	Certificate of participation	15/participation
Scientific ISI papers related to the research activity in the scientific research programme	2	At least accepted for publication	45/paper
ECTS (partial)			210
ECTS (total)			240

5. SPECIFIC CONSTRAINTS FOR ACCESS / ADMISSION, PROMOTION, EQUIVALENCE OF UNIVERSITY ADVANCED STUDIES PROGRAMME, etc.

The promotion of PhD students on the Programme of Scientific Research is made upon acceptance of the Project of scientific research defended in front of the PhD supervisor and Commission. The equivalence of University Advanced Studies programme followed in a different institution is made upon the analysis of the corresponding teaching plan and is approved by the Council of the Doctoral School of Mathematics.

6. DEFENDING THE PhD THESIS

This is made according to „Regulamentul de finalizare a studiilor universitare de doctorat”

7. POSSIBILITIES TO CONTINUE THE PhD STUDIES

By postdoc studies in the same institution or a different one.



Rector

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