

## FISA DISCIPLINEI

### Syllabus

#### 1. Information on the study programme

1.1. University	West University of Timisoara
1.2. Faculty	PHYSICS
1.3. Department	PHYSICS
1.4. Study program field	PHYSICS
1.5. Study cycle	MASTER
1.6. Study program / qualification	<b>Advanced Research Methods in Physics</b> COR: 211101 physicist.; 211103 research assistant in physics; 211105 research assistant in physics-chemistry; 211107 research assistant in technological physics.

#### 2. Information on the course

2.1. Discipline title		<b>Practice for elaboration of dissertation / Practica pentru elaborarea dizertatiei ARMP2403</b>					
2.2. Teacher		Prof.dr. Eugenia Paulescu; Conf.dr. Cosmin Crucean					
2.3. Study year	2	2.4. Semester	4	2.5. Examination type	E	2.6. Course type	DO/DS

#### 3. Estimated study time (number of hours per semester)

3.1. Attendance hours per week	4	Out of which: 3.2 course	0	3.3. seminar/laboratory	0/4
3.4. Attendance hours per semester	48	Out of which: 3.5 course	0	3.6. seminar/laboratory	0/48
<b>Distribution of the allocated amount of time:</b>					<b>hours</b>
Study of literature, course handbook and personal notes					40
Supplementary documentation at library or using electronic repositories					38
Preparing for seminar/laboratories, homework, reports etc.					70
Exams					4
Tutoring					
Other activities...					-
<b>3.7. Total number of hours of individual study</b>		148			
<b>3.8. Total number of hours per semester</b>		200			
<b>3.9. Number of credits (ECTS)</b>		8			

#### 4. Prerequisites (if it is the case)

4.1. curriculum	<ul style="list-style-type: none"> <li>General knowledge of physics.</li> </ul>
4.2. competences	<ul style="list-style-type: none"> <li>General competencies: use of terminology in physics and computer science in written and oral communication in English; Basic Skills PC operating; ability to do work independently and in a team.</li> </ul>

	<ul style="list-style-type: none"> <li>Professional Skills: identification and proper use of the main physical laws and principles in a given context; use of software packages for data analysis and processing.</li> </ul>
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### 5. Requirements (if it is the case)

5.3 for the lecture	<ul style="list-style-type: none"> <li>PC + projector</li> </ul>
5.4 for the seminar / laboratory	<ul style="list-style-type: none"> <li>PC + projector</li> </ul>

### 6. Specific acquired competences

Professional competences	<ul style="list-style-type: none"> <li>Knowledge the computer programs that are useful in writing the dissertation paper.(Latex)</li> <li>Knowledge the computer programs needed to process data, images and make graphical representations (MathCad, Mathematica, Maple)</li> <li>Knowledge of computer programs that are useful in writing a scientific presentation (Latex, Power Point)</li> </ul>
Transversal competences	<ul style="list-style-type: none"> <li>Knowledge of the deontological requirements in the elaboration of a scientific paper.</li> <li>The ability to manage complex projects and to develop partnerships;</li> <li>Creativeness and initiative in solving complex problems.</li> </ul>

### Course Objectives

7.1 General objective	<ul style="list-style-type: none"> <li>Development of the ability to use computer programs useful in the elaboration of the dissertation paper.</li> </ul>
7.2 Specific objectives	<ul style="list-style-type: none"> <li>Development of skills in the use of computer programs useful for writing dissertation papers.</li> <li>Development of skills in the use of computer programs useful for data processing and obtaining graphs.</li> </ul>

### 7. Content

7.1 Seminar / laboratory	Teaching methods	Remarks, details
1. The structure of a dissertation paper.	Lecture, interactive discussions, presentation of examples and tutorials	4 hours
2. Presentation of useful programs for the elaboration of the dissertation.		4 hours
3. Using Microsoft Word in writing the license paper.		12 hours
4. Using Latex to write the license paper		12 hours
5. Use of Origin, Table curve and Maple for data processing and graphical representations.		12 hours

6. Inclusion of graphics in the text of the paper.		2 hours
7. Inclusion of equations in the text of the paper		2 hours
8. Inclusion of bibliographic references in the text of the paper		4 hours
9. Use of anti-plagiarism software.		2 hours
10 Final verification		2 hours

### 8. Correlations between the content of the course and the requirements of the professional field and relevant employers.

- Knowing and understanding the specific requirements for the elaboration of a dissertation paper in the field of physics, training and development of skills to use software tools for a dissertation paper, cultivating a scientific environment based on values, professional ethics and quality.

### 9. Use of tools based on generative artificial intelligence

To complete the tasks defined in the assessment section the use of generative AI tools is not permitted. The most well-known examples of generative AI tools include, but are not limited to: ChatGPT, Google Gemini, Copilot for text, or MidJourney for images.

Each student will specify, in a statement written separately for each assignment, according to the model in Annex 3 of the [Regulation on the use of generative artificial intelligence in the educational process at UVT](#), the tool they used, how it was used, and the part of the assignment in which it was used. The statement will be included by the student at the beginning of the submitted assignment.

At the discipline Practice for elaboration of dissertation students can use the AI tools.

### 10. Evaluation

Activity	10.1 Assessment criteria	10.2 Assessment methods	10.3 Weight in the final mark
<b>10.4. Laboratory</b>	Students to apply the knowledge gained in the elaboration of a dissertation paper that is scientifically correct and appropriate in terms of professional ethics.	Evaluation during the semester Final evaluation - dissertation presentation, preliminary version.	<b>50%</b>  <b>50%</b>
<b>10.6 Minimum needed performance for passing</b>			
Students to meet 50% of the requirements formulated during the semester. Students to present the dissertation paper in the format corresponding to the end of the semester.			

Date of completion:  
27.01.2026

Discipline instructor:  
Conf. Dr. Eugenia Paulescu/Conf. Dr. Cosmin Crucean

Date of approval:

Head of the department  
Associate Professor Dr. Nicoleta Ștefu,