

SYLLABUS

1. Information on the study programme

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| 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 | PHYSICS AND TECHNOLOGY OF ADVANCED MATERIALS / according to COR: Analyst - 251201; Research assistant in physics - 211103; Physicist - 211101; Teacher - 233002; Education reviewer – 235106. |

2. Information on the course

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| 2.1. Discipline title | | Practice for elaboration of dissertation | | | | | |
| 2.2. Teacher | | Associate Professor Dr. Daniela SUSAN-RESIGA | | | | | |
| 2.3. Study year | 2 | 2.4. Semester | 4 | 2.5. Examination type | V | 2.6. Course type | Opt PTAM 2403 |

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

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|-------------------------------------------------------------------------|----|-----------------------------|---|-------------------------|------------|
| 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 | 56 | Out of which: 3.5 course | 0 | 3.6. seminar/laboratory | 0/56 |
| Distribution of the allocated amount of time: | | | | | ore |
| Study of literature, course handbook and personal notes | | | | | |
| Supplementary documentation at library or using electronic repositories | | | | | 35 |
| Preparing for seminar/laboratories, homework, reports etc. | | | | | 35 |
| Exams | | | | | 2 |
| Tutoring | | | | | |
| Other activities... | | | | | - |
| 3.7. Total number of hours of individual study | | 70 | | | |
| 3.8. Total number of hours per semester | | 126 | | | |
| 3.9. Number of credits (ECTS) | | 8 | | | |

4. Prerequisites (if it is the case)

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| 4.1. curriculum | <ul style="list-style-type: none"> • General knowledge of physics. |
| 4.2. competences | <ul style="list-style-type: none"> • General competencies: the ability of analysis and synthesis; accumulation of basic general knowledge; proper use of terminology in physics and computer science in written and oral communication in English; Basic Skills PC operating; ability to work independently and in teams. |

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| | <ul style="list-style-type: none"> 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. |
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5. Requirements (if it is the case)

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

6. Specific acquired competences

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| Professional competences | <ul style="list-style-type: none"> Knowledge the computer programs that are useful in writing the dissertation paper. Knowledge the computer programs needed to process data, images and make graphical representations. Knowledge of computer programs that are useful in writing a scientific presentation. Knowledge of methods for quoting bibliographic references in the text. |
| Transversal competences | <ul style="list-style-type: none"> Knowledge of the deontological requirements in the elaboration of a scientific paper and of the programs for verifying the originality of a text. The ability to manage complex projects and to develop partnerships in economic environments; Creativeness and initiative in solving complex problems. |

7. Course Objectives

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

8. Content

| 8.1 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 |

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| 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 |

9. 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, are arguments that motivate the usefulness of this discipline for the training of a future physicist.

10. Evaluation

| Activity | 10.1 Assesment criteria | 10.2 Assesment methods | 10.3 Weight in the final mark |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 10.4. Laboratory | <ul style="list-style-type: none"> Students to apply the knowledge gained in the elaboration of a dissertation paper that is scientifically correct and appropriate in terms of professional ethics. | <ul style="list-style-type: none"> Evaluation during the semester Final evaluation - dissertation presentation, preliminary version. | <p>50%</p> <p>50%</p> |
| 10.6 Minimum needed performance for passing | | | |
| <ul style="list-style-type: none"> 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:
25.01.2022

Discipline instructor:
Associate Professor
Dr. Daniela SUSAN-RESIGA,



Date of approval:

Director of the department)
Associate Professor Dr. Cătălin MARIN,

