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| COURSE TITLE: NUCLEAR PHYSICS AND FUSION | | |
| EUROPEAN MASTER OF SCIENCE IN NUCLEAR FUSION AND ENGINEERING | YEAR: 2nd | SEMESTER: 1st |

| COURSE SCHEDULE | | | | | | | | | |
|------------------------|---------|---|----------------|-----------------|--|--|---|-------------|----------------------------|
| WEEK | SESSION | DESCRIPTION OF THE CONTENTS | GROUP (Tick X) | | Indicate if a space different from the classroom is required (laboratory, computer classroom, etc) | Indicate YES/NO if It is a session with two teachers (*) | STUDENT'S WEEKLY SCHEDULE | | |
| | | | Lecture Class | Practical Class | | | DESCRIPTION | CLASS HOURS | HOMEWORK HOURS Máximum 7 H |
| 1 | 1 | 1. Fundamental constituents of matter and their interactions | X | | | | - Reading of proposed topics - Work on the subject, including bibliographic research | 1,5 | 3 |
| 2 | 2 | 2. Length, energy and time scales of the subatomic world | X | | | | - Reading of proposed topics - Work on the subject, including bibliographic research - Solution of proposed exercises | 1,5 | 3 |
| 3 | 3 | 3. Bulk properties of nuclei. Masses, sizes and shapes | X | | | | - Reading of proposed topics - Work on the subject, including bibliographic research - Solution of proposed exercises | 1,5 | 3 |
| 4 | 4 | 4. Nuclear radioactivity | X | | | | - Reading of proposed topics - Work on the subject, including bibliographic research | 1,5 | 6 |
| 5 | 5 | 4. (cont.) | | X | | | - Solution of proposed exercises - Presentation of short proposed works - Participation in discussions and | 1,5 | |

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|-----------------|----|---|---|---|--|--|---|-----------|------------------|
| | | | | | | | debates | | |
| 6 | 6 | 5. Alpha, beta and gamma decays | X | | | | - Reading of proposed topics - Work on the subject, including bibliographic research - Solution of proposed exercises | 1,5 | 3 |
| 7 | 7 | 6. Basic models of nuclear structure | X | | | | - Reading of proposed topics - Work on the subject, including bibliographic research | 1,5 | 6 |
| 8 | 8 | 6. (cont.) | | X | | | - Solution of proposed exercises - Presentation of short proposed works - Participation in discussions and debates | 1,5 | |
| 9 | 9 | 7. Nuclear reactions | X | | | | - Reading of proposed topics - Work on the subject, including bibliographic research | 1,5 | 6 |
| 10 | 10 | 7. (cont.) | | X | | | - Solution of proposed exercises - Presentation of short proposed works - Participation in discussions and debates | 1,5 | |
| 11 | 11 | 8. Fission and fusion processes | X | | | | - Reading of proposed topics - Work on the subject, including bibliographic research | 1,5 | 6 |
| 12 | 12 | 8. (cont.) | | X | | | - Solution of proposed exercises - Presentation of short proposed works - Participation in discussions and debates | 1,5 | |
| 13 | 13 | 9. Controlled fission and fusion reactions | X | | | | - Reading of proposed topics - Work on the subject, including bibliographic research - Solution of proposed exercises | 1,5 | 3 |
| 14 | 14 | 10. Basic nuclear astrophysics | X | | | | - Reading of proposed topics - Work on the subject, including bibliographic research - Solution of proposed exercises | 1,5 | 3 |
| SUBTOTAL | | | | | | | | 21 | + 42 = 63 |
| 15 | | Support classes, delivery of proposed homework assignments, etc | | | | | | 2 | |

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|--------------|--|-----------------------------------|--|--|--|--|--|--|-----------|
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| 16- 18 | | Preparation for the written exams | | | | | | | 10 |
| TOTAL | | | | | | | | | 75 |