WYDZIAŁ FIZYKI UW

**Field of study:** ***Physics (Studies in English)***

**Profile:** general academic

2-year second cycle programme, full-time

**Academic year: 2024/2025**

## Specialization: Computer Modeling of Physical Phenomena

### First year, semester 1

| | | | Option A | | Option B | | |
|---|---|---|---|---|---|---|---|
| **Course title** | **Course code** | **Form of classes** | **Number of hours** | **Number of ECTS points** | **Number of hours** | **Number of ECTS points** | **Learning outcomes assessment** |
| Physics Laboratory, 2nd Level A | 1100-4PLA | lab | 45 | 5 | 45 | 5 | written report (grade#) |
| Elective course from the Statistical physics list | 1100-4SPA or 1100-4SPB | lecture | 45 | 7 | 45 | 7 | written or oral exam |
| | | exercises | 45 | | 45 | | |
| Intellectual property and entrepreneurship (Option A) or Intellectual property and entrepreneurship with team project (Option B) | 1100-4IPE or 1100-4AF16 | lecture | 30 | 2 | 30 | 5 | written exam |
| | | project | 0 | 0 | 75 | | project |
| Subject to choose from the Numerical analysis list | | | 30 | 3 | 30 | 3 | written exam or grade |
| Elective course from the Advanced Quantum Mechanics list | | lecture | 30 | 6 | 30 | 6 | written exam |
| | | exercises | 30 | | 30 | | |
| Electives form the Topics in contemporary physics list | | | 30 | 3 | 30 | 3 | written exam or grade |
| Specialist seminar | | seminar | 30 | 2 | 30 | 2 | grade |
| **In total** | | | **315** | **28** | **390** | **31** | |

### First year, semester 2

| | | | Option A | | Option B | | |
|---|---|---|---|---|---|---|---|
| **Course title** | **Course code** | **Form of classes** | **Number of hours** | **Number of ECTS points** | **Number of hours** | **Number of ECTS points** | **Learning outcomes assessment** |
| Introduction to Philosophy | 1100-IP | seminar | 30 | 3 | 30 | 3 | grade |
| Subject to choose from the Numerical analysis list | | | 30 | 3 | 30 | 3 | written exam or grade |
| Electives from the Topics in contemporary physics list | | | 120 | 12 | 90 | 9 | written exam or grade |
| Workshop on computer modeling | 1100-4WCM | workshop | 105 | 9 | 105 | 9 | grade |
| Specialist seminar | | seminar | 30 | 2 | 30 | 2 | grade |
| OGUN (General University Courses)* | | | 30 | 3 | 30 | 3 | written exam or grade |
| **In total** | | | **345** | **32** | **315** | **29** | |

### Second year, semester 3

| | | | Option A*** | | Option B | | |
|---|---|---|---|---|---|---|---|
| **Course title** | **Course code** | **Form of classes** | **Number of hours** | **Number of ECTS points** | **Number of hours** | **Number of ECTS points** | **Learning outcomes assessment** |
| Team project** | 1100-TP or 1100-ZPS2 | project | 75 | 5 | 0 | 0 | grade |
| Electives from the Topics in contemporary physics list | | | 90 | 9 | 90 | 9 | written exam or grade |
| Specialist seminar | | seminar | 60 | 4 | 60 | 4 | grade |
| Workshop in advanced computer modeling I | 1100-5WACM1 | workshop | 135 | 13 | 135 | 13 | grade |
| OGUN (General University Courses)*** | | | 30 | 3 | 30 | 3 | written exam or grade |
| **In total** | | | **390** | **34** | **315** | **29** | |

| Second year, semester 4 | | | | | |
|---|---|---|---|---|---|
| **Course title** | **Course code** | **Type of course** | **Number of hours** | **Number of ECTS points** | **Learning outcomes assessment** |
| Work placement | 1100-WP | internship | 80 | 4 | written report (grade) |
| Proseminar Challenges of the modern times | 1100-PCMT | seminar | 20 | 2 | grade |
| Proseminar Theoretical physics | 1100-5sTP | seminar | 30 | 3 | grade |
| Workshop in advanced computer modeling II | 1100-5WACM2 | workshop | 225 | 22 | submission of a master's thesis accepted by the supervisor |
| **In total** | | | **355** | **31** | |

| | **Option A** | | **Option B** | |
|---|---|---|---|---|
| **In total** | **Number of hours** | **Number of ECTS points** | **Number of hours** | **Number of ECTS points** |
| 1 year | 660 | 60 | 705 | 60 |
| 2 year | 745 | 65 | 670 | 60 |
| 1 and 2 year | **1405** | **125** | **1375** | **120** |

**Comments:**

* The completion of 5 ECTS from subjects in the fields of humanities or social sciences is required as part of the study program.

** A team project can be completed within a dedicated course or as part of other courses in the study program, provided that the organization of the subject's classes inovolves teamwork.

*** Option A is obligatory for those students who did not complete a team project during the first year

# Passing with a grade means that the grade is awarded based on one or more written assessments conducted during the course of the didactic classes or based on one or more written assignments carried out during the period of didactic classes, following the subject's syllabus.