|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **COURSES** | **1 YEAR**  **hours/sem.** | | **2 YEAR**  **hours/sem.** | | **3 YEAR**  **hours/sem.** | | **4 YEAR**  **hours/sem.** | |
| **I** | **II** | **III** | **IV** | **V** | **VI** | **VII** | **VIII** |
| High Education Didactics | 20 (+10)\* |  |  |  |  |  |  |  |
| Ethics | 8 |  |  |  |  |  |  |  |
| Copyright | 4 (+4)\* |  |  |  |  |  |  |  |
| Knowledge Transfer (scholar’s workshop) |  |  | 4 |  |  |  |  |  |
| Acquisiton of grants (scholar’s workshop) |  | 8 | |  |  |  |  |  |
| Public speaking (scholar’s workshop) – voluntary course |  | 8\* | |  |  |  |  |  |
| Methodical workshop (group) | 4 (+4)\* | |  |  |  |  |  |  |
| Methodical workshop (individual as part of internship) | 4 (+4)\* | | | |  |  |  |  |
| Publishing strategy in a discipline/field | 10 |  |  |  |  |  |  |  |
| Scientific development (individual classes with the supervisor) |  | 15 | 15 |  |  |  |  |  |
| Research Seminar I\*\* | 60 | | | |  |  |  |  |
| Research Seminar II\*\* |  |  |  |  | 60 | | | |
| Methodological classes to be selected from the list\*\*\* | 30 | | | |  |  |  |  |
| Interdisciplinary conference I |  |  | 15 |  |  |  |  |  |
| Interdisciplinary conference II |  |  |  |  |  |  | 15 |  |
| Latest discoveries in exact and natural sciences |  | 15 |  |  |  |  |  |  |
| Teaching Practice (Internship) | 30 | | 60 | | 60 | | 30 | |
| Lecture on: Graduate Advanced Physics  one to be selected\*\*\*\*:  1. Advanced Graduate Quantum Mechanics  *(lecturer: K.Byczuk)* 2. Advanced Graduate Quantum Optics  *(lecturer: R.Demkowicz)* 3. Advanced Graduate Solid State Physics  *( lecturer: J. Łusakowski i W.Bardyszewski)* 4. Advanced Graduate Optics  *(lecturer: M.Trippenbach)* 5. Advanced Graduate Stochastic Processes  *(lecturer: B.Cichocki)*  6*.* Advanced Graduate Fluid Mechanics  *(lecturer: M.Lisicki/G.Abade)* | 30 lecture + 30 training | | | | | |  |  |

\*voluntary hours

\*\*Research Seminar I and II - to be chosen from the offer of seminars available at the faculty; a seminar should correspond to the field of the doctoral dissertation; it should be selected together with the supervisor. To get a credit the attendance and delivering a presentation at least once a year in English are required.

\*\*\*Methodological classes to be selected from the list of classes offered by faculties . To be selected with the supervisor.

\*\*\*\*One lecture to be chosen during 4 years of education in the doctoral school; the offer may be different every year (check availability in USOS). The list will be updated with new courses, once they are available. NOTICE: the cycle Graduate Advanced Physics includes only courses from the above list.