## English language

# **Education Programme in Physics** in the discipline of physical sciences

### at the Doctoral School of Exact and Natural Sciences

I

#### **General provisions**

- 1. The education programme in Physics has been established according to the Act of 20 July 2018 on the Law on Higher Education and the guidelines applicable at the Jagiellonian University in Kraków.
- 2. The education programme leads to the achievement of level 8 learning outcomes as defined according to the Polish Qualifications Framework.
- 3. The education programme lasts eight semesters.
- 4. The programme is conducted primarily in English.
- 5. The detailed requirements and admission criteria to the programme are defined witin the terms and conditions for admission as approved by the Senate.
- 6. Within 12 months from the date of commencement of education, the doctoral student shall submit an Individual Research Plan to the co-ordinator of the education programme.
- 7. The number of ECTS credits allocated to the education programme in Physics is a minimum of 40 credits, with a minimum of 24 credits to be obtained by the end of the fourth semester.
- 8. The rules on achieving learning outcomes and the manner of their assessment are specified in the syllabuses of the individual courses.

II

#### **Professional traineeships**

- 1. Professional traineeships shall take the form of conducting classes with students as well as assisting in this process.
- 2. Professional traineeships can also take the form of conducting activities with the purpose of popularizing science.
- 3. The principles and forms of professional traineeships for PhD students of the education programme in Physics are determined by the programme co-ordinator.
- 4. The number of hours allocated for professional traineeship cannot exceed 60 hours per academic year.

#### Ш

# Mode of study and research progress assessment

- 1. The supervisor shall supervise the doctoral student's programme of study and the individual research plan.
- 2. Annually, but no later than by 30 September, the PhD student shall submit to the education programme co-ordinator a report on the implementation of his/her individual research plan as consulted with the supervisors.
- 3. The education programme co-ordinator evaluates the implementation of study and research progress on the basis of the PhD student's report, information from the supervisors and the report from the Electronic University System for Study Support.
- 4. Changing an individual research plan, in particular, changing or postponing some of the doctoral student's duties to another date, requires the approval of the education programme co-ordinator.
- 5. The education programme co-ordinator may decide to accept as part of the performance of duties (with the appropriate allocation of ECTS credits) courses or classes not specified within the education programme.
- 6. By the end of the 4<sup>th</sup> semester, the PhD student shall be subject to a mid-term assessment before the committee appointed by the director.
- 7. The mid-term assessment date is established by the education programme co-ordinator. 30 days before the scheduled committee meeting, the PhD student shall submit to the education programme co-ordinator a written report on the implementation of his/her individual research plan. The report must be approved by the supervisor before submission.
- 8. Members of the committee and the PhD student, in the parts to which s/he was invited, participate in the meetings of the committee conducting the mid-term assessment.

IV SCHEDULE FOR THE EDUCATION PROGRAMME IN PHYSICS

| DOCTORAL SCHOOL OF EXACT AND NATURAL SCIENCES  EDUCATION PROGRAMME IN PHYSICS                 |  |                                      |              |                     |                |  |  |
|---|--|--------------------------------------|--------------|---------------------|----------------|--|--|
| Item  | Objective Description  | PQF*                                 | Semest<br>er | ECTS                | No of<br>hours |  |  |
| OBLIGATORY CLASSES IN DOCTORAL SCHOOL OF EXACT AND NATURAL SCIENCES (MINIMUM 16 ECTS CREDITS) |  |                                      |              |                     |                |  |  |
| Specialist course for PhD students  | Lecture - presentation of the latest results of world research and current research problems ina given discipline (selected theories, methods, models and relationships between them) or interdisciplinary lecture. It may include exercises or problems to be solved outside the lecture or elements of group work or in the form of workshops. Assessment: exam (or another, determined by the teacher). | P8S_WG<br>P8S_KK                     | I-VIII       | 2-4/30h<br>(min. 4) | 30-120         |  |  |
| Doctoral Seminar conducted at the Faculty of Physics, Astronomy and Applied Computer Science  | Seminar: preparation for research, analysis and creative synthesis of world scientific achievements, identifying and solving research problems, participating in the exchange of experiences and scientific ideas.  Assessment: assessment of paper and participation.   | P8S_WG<br>P8S_UK<br>P8S_UW<br>P8S_UO | I-VIII       | 1/15h<br>(min. 4)   | 60-120         |  |  |
| PNDA course (Foundations of academic teaching)  | Theoretical preparation for work of an academic teacher. Developing communication skills, knowledge transfer, and ability to assess the work of others.  Assessment: credit (or another, determined by the teacher).   | P8S_UU<br>P8S_KR                     | I-VI         | 2-4<br>(min 2)      | 15-30          |  |  |

| Classes developing professional competences and "soft" skills         | A course selected from the list announced before a given academic year, e.g. career planning, managerial competence, business communication or additional trainings offered during the academic year. Assessment: <b>determined by the teacher.</b> | P8S_WK<br>P8S_KR<br>P8S_KO | I-VIII  | 2 for 30h                          | 30  |  |
|---|---|----------------------------|---------|------------------------------------|---|--|
| English   | English at C1 level; if a PhD student holds a C1 certificate, they may obtain credit from JCJ without having to attend classes, and the PhD student may pursue another language at any level. Assessment: exam                                      | P8S_UK                     | I-IV    | 4 (min 4)                          | 60  |  |
| JOINT OPTIONAL A  | CTIVITIES FOR THE DOCTORAL SCHOOL O   |                            | ND NATU | RAL SCIENCES                       |   |  |
|   | (MINIMUM 4 ECTS CREDITS)  |                            | T       |                                    |   |  |
| Doctoral School Seminar   | A monthly seminar with lectures in English delivered by invited Jagiellonian University researchers and guest researchers.  Assessment: attendance  | P8S_WG<br>P8S_UW<br>P8S_UK | I-VIII  | 1 ECTS<br>per year<br>(max 4 ECTS) | minimum<br>6 seminars per<br>year             |  |
| Modern foreign language course  | As a second foreign language Assessment: <b>exam</b>  | P8S_UU                     | I-IV    | 4                                  | 60  |  |
| Polish for foreigners   | Assessment: exam  | P8S_UU                     | I-VIII  | 4                                  | 60  |  |
| General knowledge development classes                                 | A course selected from the list announced before a given academic year, e.g. philosophy, ethics, artificial intelligence, cosmology.  Assessment: exam  | P8S_UW<br>P8S_KR<br>P8S_WK | I-VIII  | 2 for 30h                          | 30 or 60                                      |  |
| OPTIONAL COURSES DEVELOPING PROFESSIONAL COMPETENCES (MINIMUM 4 ECTS) |   |                            |         |                                    |   |  |
| Tutorial with the supervisor  | Preparing an individual research project, verifying the work plan, preparation of public speeches on the project, editorial work on project publication.  | P8S_KK<br>P8S_WG<br>P8S_UO | I-VIII  | 1 for 15h                          | 15 or 30 or 45<br>or 60h, max 15h<br>per year |  |

| PNDA workshop (Foundations of academic teaching)                                 | Teaching workshops. Assessment: <b>credit</b>   | P8S_UK           | I-VI   | 1 for 15h                  | 15-30                       |  |
|--|---|------------------|--------|----------------------------|-----------------------------|--|
| Other courses for acquiring competences to implement an individual research plan | E.g.: summer schools, courses at other universities, including foreign universities.  Assessment: as per course programme/syllabus  COURSES DEVELOPING TEACHING COM               | P8S_WG<br>P8S_UW | I-VIII | As per course requirements | As per course requirements  |  |
| COURSES DE VELOTING TEACHING COMI ETENCES  |   |                  |        |                            |                             |  |
| Teaching classes as part of professional traineeship                             | Preparation for academic teaching, developing communication skills and knowledge transfer.  Assessment: by the subject coordinator, taking into account the opinions of students. | P8S_UU<br>P8S_KO | I-VIII | 1 for 15h                  | 240,<br>max 60h<br>per year |  |

# Mandatory additional training:

- 1. PhD students starting their education are required to complete occupational health and safety training.
- 2. First Aid course (theoretical and practical part) to be carried out by the end of the 2nd semester.
- 3. PhD students planning research involving vertebrate animals are required to undergo training that culminates in the appropriate qualifications.

#### $\mathbf{V}$

# Final provisions

The education programme in Physics in the discipline of physical sciences at the Doctoral School of Exact and Natural Sciences enters into force on the day of the adoption of the Resolution.

<sup>\*</sup> Polish Qualification Framework (PQF) in accordance with the Regulation of the Minister of Science and Higher Education on the characteristics of second degree learning outcomes for qualifications at the levels 6-8 within the Polish Qualifications Framework.