

## **The rules of enrolment to the Doctoral School of Exact and Natural Sciences at the Jagiellonian University in the academic year 2021/2022:**

### **A. PhD programme of study named *Astronomy* in the discipline of Astronomy, conducted in English**

#### **Formal requirements for entering the admission procedure**

Candidates eligible for admission to the *Astronomy* programme of study at the Doctoral School of Exact and Natural Sciences are the holders of *Magister*, *Magister inżynier*, or equivalent professional title awarded in the field of exact sciences.

In exceptional cases, given the outstanding quality of candidate's academic achievements, a person referred to in Article 186 of the Act who does not hold a *Magister* title, who has completed the undergraduate (first-cycle) programme, or who has completed the third year of long-cycle graduate programme but holds the status of student of a programme in the field indicated above or has graduated from a programme in that field, may also apply for admission to the programme.

In order to confirm the fulfilment of the condition referred to in Article 186, section 2 of the Act, the candidate shall be obliged to submit:

1. two opinions confirming the high quality of the research work carried out and the high level of advancement of such work, issued by academic tutors holding at least the postdoctoral degree or being employees of a foreign university or scientific institution who have significant achievements in scientific issues related to the curriculum, or
2. a certificate of being a beneficiary of the "Diamond Grant" programme of the Ministry of Science and Higher Education.

Whether the candidate meets the condition referred to in Article 186 section 2 of the Act shall be decided by the Director in consultation with the chair of the committee.

#### **Qualification criteria**

Candidates are placed on the ranking list in order determined by their final result, calculated on the basis of:

1. candidate's grade average from the undergraduate (first-cycle) program and from the graduate (second-cycle) program, excluding the last year of studies, calculated in accordance with the regulation in power at the university of graduation (or candidate's grade average from the first 4 years on long-cycle graduate program), calculated on the basis of the following formula (0–50 points):

$$W1 = \left( \frac{S_1}{S_{1Max}} \right) \times 30 + \left( \frac{S_2}{S_{2Max}} \right) \times 20$$

where:

*I* stands for the grade average described above, in points,

*S1* stands for the grade average from undergraduate (first-cycle) programme,

*S1Max* stands for the maximum (best) grade on the scale in power at the university of graduation,

*S2* stands for the grade average from graduate (long-cycle) programme, excluding the last

year of studies,

$S2Max$  stands for the maximum (best) grade on the scale in power at the university of graduation,

For candidates who have graduated from long-cycle graduate programmes, grade average from the first four years of their studies,  $S$ , is used in the calculation based on the formula above, using the following substitution of each  $S1$  and  $S2$  element:  $S1 = S2 = S$ .

For grading systems with descending grading scales, where  $S^*$  stand for the worst grade and  $S^{**}$  stands for the best grade, the respective grade average  $S_i$  ( $i = 1, 2$ ) is substituted by the difference  $S^* - S_i$ , and  $S_{Max}$  is substituted by the difference  $S^* - S^{**}$ .

2. interview result  $W2$  (0–50 points).

### **Admission procedure**

The admission procedure is divided into two stages.

During the first stage, the committee awards points for the grade averages from the undergraduate (first-cycle) programme  $S1$  and from the graduate (second-cycle) programme  $S2$ , in accordance with the formula outlined in the point 2.1 above. To be allowed to take part in the second stage of the procedure, candidates need to have earned, for each grade average calculated by the formula above, a result of  $S1/S1Max$  and  $S2/S2Max$  of at least 0.60. If even one of the grade averages is lower, the candidate cannot take part in the interview, and they are awarded the ranking list result  $W2 = 0.00$ .

During the second stage, the candidate takes part in an interview.

Before the interview begins, the committee may review the documents submitted by the candidate, in particular with their curriculum vitae, information about exam results from the course of their studies, and (if available) the copy or draft of the *Magister* thesis.

During the interview, a selected committee member asks questions about the course of studies, previous achievements, and about the subject and preliminary results of their *Magister* thesis, as well as about the academic work and research projects which the candidate would like to carry out while enrolled at the doctoral school. Committee members may ask supplementary questions, including questions related to the courses the candidate has taken during their university education.

Candidate's answers are assessed separately and secretly by all committee members, on a scale from 0 to 50 points. The final interview results  $W2$  is an arithmetic average of the grades awarded by all committee members.

The interview may be conducted in Polish or in English.

### **Final result calculation**

The final admission procedure result  $W$  is expressed as a number on a scale from 0 to 100 points, calculated for all candidates in accordance with the following formula:

$$W = W1 + W2$$

where:

$W1$  stands for the computed grade average,

$W2$  stands for the interview result.

Candidates who are awarded the highest *W* results will be qualified for admission to the programme, provided that their result is not lower than 67.00 points, while admission depends on candidate's position on the ranking list and on the number of places available within the programme.

## **B. PhD programme of study named Computer Science in the discipline of Computer Science, conducted in English**

### **Formal requirements for entering the admission procedure**

Candidates eligible for admission to the *Computer Science* programme at the Doctoral School of Exact and Natural Sciences are the holders of *Magister*, *Magister inżynier*, or equivalent professional title awarded in any field.

In exceptional cases, given the outstanding quality of candidate's academic achievements, a person referred to in Article 186 of the Act who does not hold a *Magister* title, who has completed the undergraduate (first-cycle) programme, or who has completed the third year of long-cycle graduate programme but holds the status of student of a programme in the field indicated above or has graduated from a programme in that field, may also apply for admission to the programme.

In order to confirm the fulfilment of the condition referred to in Article 186, section 2 of the Act, the candidate shall be obliged to submit:

1. two opinions confirming the high quality of the research work carried out and the high level of advancement of such work, issued by academic tutors holding at least the postdoctoral degree or being employees of a foreign university or scientific institution who have significant achievements in scientific issues related to the curriculum, or
2. a certificate of being a beneficiary of the "Diamond Grant" programme of the Ministry of Science and Higher Education.

Whether the candidate meets the condition referred to in Article 186 section 2 of the Act shall be decided by the Director in consultation with the chair of the committee.

### **Qualification criteria**

Candidates are assessed by the committee during the interview. The interview comprises two parts, assessed separately. In the first part of the interview, candidate is assessed on the results of their studies, their special achievements, and general knowledge (0–50 points). In the second part of the interview, candidate is assessed on their *Magister* thesis and planned research project (0–50 points).

### **Admission procedure**

During the first part of the interview the committee assesses on the results of their studies and their achievements outlined in the curriculum vitae. This part also verifies and assesses candidate's knowledge in the scope not exceeding the undergraduate and graduate programmes in the field of Computer Science.

During the second part of the interview the committee assesses the *Magister* thesis, proposed research project, and candidate's readiness for undertaking research. This part also verifies candidate's knowledge and qualifications in the proposed area of research.

### **Final result calculation**

The final admission procedure result  $W$  is expressed as a number on a scale from 0 to 100, calculated as follows:

$$W = A + B,$$

where:

$A$  stands for the result of assessment of the first part of the interview, on a scale from 0 to 50, and

$B$  stands for the result of assessment of the second part of the interview, on a scale from 0 to 50.

### **C. PhD programme of study named Mathematics in the discipline of Mathematics, conducted in English**

#### **Formal requirements for entering the admission procedure**

Candidates eligible for admission to the *Mathematics* programme at the Doctoral School of Exact and Natural Sciences are the holders of *Magister*, *Magister inżynier*, or equivalent professional title awarded in any field.

In exceptional cases, given the outstanding quality of candidate's academic achievements, a person referred to in Article 186 of the Act who does not hold a *Magister* title, who has completed the undergraduate (first-cycle) programme, or who has completed the third year of long-cycle graduate programme but holds the status of student of a programme in the field indicated above or has graduated from a programme in that field, may also apply for admission to the programme.

In order to confirm the fulfilment of the condition referred to in Article 186, section 2 of the Act, the candidate shall be obliged to submit:

1. two opinions confirming the high quality of the research work carried out and the high level of advancement of such work, issued by academic tutors holding at least the postdoctoral degree or being employees of a foreign university or scientific institution who have significant achievements in scientific issues related to the curriculum, or
2. a certificate of being a beneficiary of the "Diamond Grant" programme of the Ministry of Science and Higher Education.

Whether the candidate meets the condition referred to in Article 186 section 2 of the Act shall be decided by the Director in consultation with the chair of the committee.

#### **Qualification criteria**

Candidates are assessed by the committee during the interview. The interview comprises two parts, assessed separately. In the first part of the interview, candidate is assessed on the results of their studies, their special achievements, and general knowledge (0–50 points). In the second part of the interview, candidate is assessed on their *Magister* thesis and planned research project (0–50 points).

#### **Admission procedure**

During the first part of the interview the committee assesses on the results of their studies and their achievements outlined in the curriculum vitae. This part also verifies and assesses candidate's knowledge in the scope not exceeding the undergraduate and graduate programmes in the field of Mathematics.

During the second part of the interview the committee assesses the *Magister* thesis, proposed research project, and candidate's readiness for undertaking research. This part also verifies candidate's knowledge and qualifications in the proposed area of research.

### **Final result calculation**

The final admission procedure result  $W$  is expressed as a number on a scale from 0 to 100, calculated as follows:

$$W = A + B,$$

where:

$A$  stands for the result of assessment of the first part of the interview, on a scale from 0 to 50, and

$B$  stands for the result of assessment of the second part of the interview, on a scale from 0 to 50.

### **D. D. PhD programme of study named Biochemistry, Biophysics, Molecular Biology, and Biotechnology in the discipline of Biological Sciences, conducted in Polish**

#### **Formal requirements for entering the admission procedure**

Candidates eligible for admission to the *Biochemistry, Biophysics, Molecular Biology, and Biotechnology* programme at the Doctoral School of Exact and Natural Sciences are the holders of *Magister*, *Magister inżynier*, or equivalent professional title awarded in the field of natural and exact sciences.

In exceptional cases, given the outstanding quality of candidate's academic achievements, a person referred to in Article 186 of the Act who does not hold a *Magister* title, who has completed the undergraduate (first-cycle) programme, or who has completed the third year of long-cycle graduate programme but holds the status of student of a programme in the field indicated above or has graduated from a programme in that field, may also apply for admission to the programme.

In order to confirm the fulfilment of the condition referred to in Article 186, section 2 of the Act, the candidate shall be obliged to submit:

1. two opinions confirming the high quality of the research work carried out and the high level of advancement of such work, issued by academic tutors holding at least the postdoctoral degree or being employees of a foreign university or scientific institution who have significant achievements in scientific issues related to the curriculum, or
2. a certificate of being a beneficiary of the "Diamond Grant" programme of the Ministry of Science and Higher Education.

Whether the candidate meets the condition referred to in Article 186 section 2 of the Act shall be decided by the Director in consultation with the chair of the committee.

Within the framework of the current PhD programme of study, it is possible to complete education in English, based on an individual programme of study, with the consent of the programme manager and the proposed academic supervisor. Both consents are required before submitting an application in the recruitment process.

#### **Qualification criteria**

The order of the candidates on the ranking list will be determined by their final numerical qualification score determined on the basis of the result of the interview evaluated on a scale of 0 - 100 points.

#### **Admission procedure**

The interview may be conducted remotely using information technology described in Appendix 1 to Ordinance No. 41 of the Rector of the Jagiellonian University. At the written request of the candidate the interview may be conducted in English.

The interview will concern:

- 1) research conducted for the purpose of the thesis.
- 2) the candidate's academic interests and research plans for future doctoral studies,
- 3) scientific issues in the field of biochemistry, biophysics, molecular biology or biotechnology connected with the subject of the planned doctoral thesis (2 general knowledge questions in this field).

The ability to solve scientific problems based on the analysis of the scientific text provided in advance will also be assessed.

### **Final result calculation**

The final result of the qualification procedure is a number between 0 and 100.

## **E. PhD programme of study named Biomedical Sciences in the discipline of Biological Sciences, conducted in English**

### **Formal requirements for entering the admission procedure**

Candidates eligible for admission to the *Biomedical Sciences* programme at the Doctoral School of Exact and Natural Sciences are the holders of *Magister*, *Magister inżynier*, or equivalent professional title.

In exceptional cases, given the outstanding quality of candidate's academic achievements, a person referred to in Article 186 of the Act who does not hold a *Magister* title, who has completed the undergraduate (first-cycle) programme, or who has completed the third year of long-cycle graduate programme but holds the status of student of a programme in the field indicated above or has graduated from a programme in that field, may also apply for admission to the programme.

In order to confirm the fulfilment of the condition referred to in Article 186, section 2 of the Act, the candidate shall be obliged to submit:

1. two opinions confirming the high quality of the research work carried out and the high level of advancement of such work, issued by academic tutors holding at least the postdoctoral degree or being employees of a foreign university or scientific institution who have significant achievements in scientific issues related to the curriculum, or
2. a certificate of being a beneficiary of the "Diamond Grant" programme of the Ministry of Science and Higher Education.

Whether the candidate meets the condition referred to in Article 186 section 2 of the Act shall be decided by the Director in consultation with the chair of the committee.

### **Qualification criteria**

Candidates will be assessed by the committee in two stages.

In the first stage, the candidate's academic performance and special achievements (internships, publications, participation in research, schools, conferences, scholarships and prizes) will be evaluated on the basis of the submitted CV and documents (0-30 points).

In a second stage, an interview in the English language will be conducted with the candidate (0-70 points).

### **Admission procedure**

Candidates may apply for admission to the programme under research topics at one of the Institutions: (1) the Malopolska Centre of Biotechnology (MCB) or (2) Jagiellonian Centre for Experimental Therapeutics (JCET) or (3) the Solaris National Synchrotron Radiation Centre (Solaris).

The qualification procedure consists of two stages.

In the first stage, the committee examines the documents sent by the candidate and assesses them by awarding a total of between 0 and 30 points. The Admission Committee draws up, separately for each institution, intermediate ranking lists of candidates applying for admission to the programme respectively for: (1) MCB, (2) JCET and (3) Solaris. From the intermediate ranking list of a particular institution a maximum of twice the number of candidates in relation to the number of research topics available in a given year for (1) MCB, (2) JCET and (3) Solaris are admitted to the second stage, in accordance with the order on the intermediate ranking list of a certain institution on the basis of the scores obtained.

The cut-off thresholds for the intermediate ranking lists used to determine twice the number of candidates in relation to the number of research topics available in a given year for a given institution are independent for (1) MCB, (2) JCET and (3) Solaris. There will be no transfer of candidates between intermediate ranking lists regardless of the scores obtained. Minimum score for admission to the second stage of recruitment is 20 points. Candidates who do not qualify for the second stage because they did not obtain the minimum points required in the first stage or who are below the cut-off thresholds, will be awarded 0 points for the second stage.

In the second stage there will be an interview consisting of:

1. a 5-minute presentation (Powerpoint) by the candidate of his/her thesis and/or other research work in which the candidate participated.

In this section, presentation skills, knowledge of English and preparation of the candidate for scientific research will be assessed (between 0 and 20 points may be awarded in total);

2. a 15-minute discussion conducted by the members of the committee and regarding the presentation and a scientific paper selected by the candidate from one to three articles provided 1,5 hours ahead of the interview, as well as the broadly defined research topics selected by the candidate at the time of the admission process and other scientific topics.

In this stage the candidate's general and specialist knowledge, ability to solve scientific/technical problems and work in a research group, ability to lead a group and the candidate's substantive preparation for research on the chosen research topic will be evaluated (between 0 and 50 points may be awarded in total).

### **Final result calculation**

The Admission Committee shall draw up separate ranking lists of candidates applying for admission to the PhD programme in Biomedical Sciences at the Doctoral School of Sciences and Exact Sciences for: (1) the Malopolska Centre of Biotechnology (MCB), (2) the Jagiellonian Centre for Experimental Therapeutics (JCET) and (3) the Solaris National Synchrotron Radiation Centre.

The order of candidates on each ranking list shall be determined by their final qualification score, being a number between 0 and 100, defined as the sum of points obtained in the first and second stage of the admission procedure.

The cut-offs thresholds in the ranking lists in a given year for a given institution are independent for (1) MCB, (2) JCET and (3) Solaris. There shall be no provision for transfer of candidates between the ranking lists irrespective of the number of points obtained. The minimum score to qualify a candidate for the programme is 75 points. From the ranking list of a particular institution, the number of candidates corresponding to the number of research topics available in a given year for (1) MCB, (2) JCET and (3) Solaris respectively will be admitted to the programme.

## F. PhD programme of study named Chemistry in the discipline of Chemical Sciences, conducted in Polish

### Formal requirements for entering the admission procedure

Candidates eligible for admission to the *Chemistry* programme of study at the Doctoral School of Exact and Natural Sciences are the holders of *Magister*, *Magister inżynier*, or equivalent professional title awarded in the field of exact and natural sciences.

In exceptional cases, given the outstanding quality of candidate's academic achievements, a person referred to in Article 186 of the Act who does not hold a *Magister* title, who has completed the undergraduate (first-cycle) programme, or who has completed the third year of long-cycle graduate programme but holds the status of student of a programme in the field indicated above or has graduated from a programme in that field, may also apply for admission to the programme.

In order to confirm the fulfilment of the condition referred to in Article 186, section 2 of the Act, the candidate shall be obliged to submit:

1. two opinions confirming the high quality of the research work carried out and the high level of advancement of such work, issued by academic tutors holding at least the postdoctoral degree or being employees of a foreign university or scientific institution who have significant achievements in scientific issues related to the curriculum, or
2. a certificate of being a beneficiary of the "Diamond Grant" programme of the Ministry of Science and Higher Education.

Whether the candidate meets the condition referred to in Article 186 section 2 of the Act shall be decided by the Director in consultation with the chair of the committee.

### Qualification criteria

Candidates are placed on the ranking list in order determined by their final numerical result, calculated on the basis of:

1. grade average computed into points by the following formula:

$$W_{\acute{s}r} = \left( 3 \frac{S_r - m}{M - m} \right) + 2$$

where:

$W_{\acute{s}r}$  stands for the grade average from the long-cycle graduate program, or for the appropriately computed arithmetic average of grade averages from undergraduate (first-cycle) and graduate (second-cycle) programs, computed into points,

$S_r$  stands for candidate's grade average, computed in accordance with the regulations in power at the university of graduation,

$M$  stands for the maximum (best) grade on the scale in power at the university of graduation,

$m$  stands for the minimum (worst) grade on the scale in power at the university of graduation;

2. result of the interview, assessed on the scale from 2.00 to 5.00 points, increasing by 0.5 point.

### Admission procedure

Admission procedure is divided into two stages.

During the first stage candidate's grade average is computed into points in accordance with the formula above. Candidates with the highest grade averages take part in the second part of the admission procedure. 40% more candidates than the number of places in a given year is invited to

the second stage. The remaining candidates are placed on the ranking list in order determined by the number of points they have been granted in the first part.

During the second stage of the admission procedure the interview is conducted. The interview is conducted in Polish or/and in English.

During the first part of the interview, committee members ask questions about candidate's course of studies, previous achievements, and about the subject and preliminary results of their *Magister* thesis, as well as about the academic work and research projects which the candidate would like to carry out while enrolled at the doctoral school. The second part of the interview includes questions related to the study subject chosen by the candidate in consultation with their proposed supervisor from the following: physical chemistry, theoretical chemistry, or biochemistry.

### **Final result calculation**

The final admission procedure result  $W$  is expressed as a number on a scale from 0 to 100, calculated for all candidates on the basis of the following formula: formula:

$$W = \frac{30W_{sr} + 70W_{RK}}{5}$$

where:

$W_{sr}$  stands for the grade average,

$W_{RK}$  stands for the result of the interview (if candidate fails the interview with the final grade of 2.0,

$W_{RK} = 0.0$  in this calculation).

## **G. PhD programme of study named Biophysics in the discipline of Physical Sciences, conducted in Polish**

### **Formal requirements for entering the admission procedure**

Candidates eligible for admission to the *Biophysics* programme of study at the Doctoral School of Exact and Natural Sciences are the holders of *Magister*, *Magister inżynier*, or equivalent professional title awarded in the field of exact and natural sciences.

In exceptional cases, given the outstanding quality of candidate's academic achievements, a person referred to in Article 186 of the Act who does not hold a *Magister* title, who has completed the undergraduate (first-cycle) programme, or who has completed the third year of long-cycle graduate programme but holds the status of student of a programme in the field indicated above or has graduated from a programme in that field, may also apply for admission to the programme.

In order to confirm the fulfilment of the condition referred to in Article 186, section 2 of the Act, the candidate shall be obliged to submit:

- a. two opinions confirming the high quality of the research work carried out and the high level of advancement of such work, issued by academic tutors holding at least the postdoctoral degree or being employees of a foreign university or scientific institution who have significant achievements in scientific issues related to the curriculum, or
- b. a certificate of being a beneficiary of the "Diamond Grant" programme of the Ministry of Science and Higher Education.

Whether the candidate meets the condition referred to in Article 186 section 2 of the Act shall be decided by the Director in consultation with the chair of the committee.

### **Qualification criteria**

Candidates are placed on the ranking list in order determined by their final result, calculated on the basis of: grade averages from undergraduate (first-cycle) and graduate (second-cycle) programs, or of the grade average from long-cycle graduate program (0–50 points), candidate's other achievements (internships, publications, participation in research, schools, conferences, scholarships, and awards), assessed on the basis of the curriculum presented by the candidate (0–20 points), and interview result (0–30 points).

In special cases, not covered in the admission procedure and final result calculation procedure, the decision is made by the committee.

### **Admission procedure**

The  $S$  studies assessment result expressed in points is calculated on the basis of the following formula:

$$S = \left[ \frac{Sb}{Mb} \times 30 + \frac{Sm}{Mm} \times 20 \right]$$

where:

$Sb$  stands for the grade average from the undergraduate (first-cycle) program, calculated in accordance with the regulations in power at the university of graduation,

$Mb$  stands for the best possible grade,

$Sm$  stands for the grade average from the first year of graduate (second-cycle) program, calculated in accordance with the regulations in power at the university of graduation

$Mm$  stands for the maximum (best) grade on the grading scale in power at the university of graduation;

for long-cycle graduate programs,  $Sb = Sm$  shall be adopted as the grade average for the completed years of studies.

For grading scales different from the Polish grading scale, the committee decides on the mode of calculation of the  $S$  result.

Candidate's academic achievements are assessed based on the presented curriculum vitae and documents, on a scale from 0 to 20 points by each committee member, and the final result is computed as mean of these grades.

The interview assesses candidate's suitability for the doctoral school and covers the following areas of interest:

- 1) subject of candidate's *Magister* thesis and candidate's academic achievements (0–10 points);
- 2) candidate's interests, and academic and research plans (0–10 points);
- 3) knowledge about the important problems and discoveries in physics, directly related to their previous research and to candidate's planned research (0–10 points).

Each interview point is assessed on the outlined scale, and the interview result is computed as an arithmetic average of grades awarded by each committee member present during the interview.

Candidates who do not take part in the interview receive 0 (zero) points.

Candidates who obtain less than 35 points for the grade averages of their studies are not admitted to an interview.

### **Final result calculation**

The final admission procedure result  $W$  is expressed as a number on a scale from 0 to 100, calculated for all candidates as sum of points earned over the course of the admission procedure.

A ranking list of candidates is created on the basis of the points obtained in the qualification procedure. Admission will be decided by the position on the ranking list taking into account the limit of places.

Only candidates whose final admission procedure result stands at least at 67.00 points, and whose studies results grade stands at least at 35.00 points can be qualified for admission.

## **H. PhD programme of study named Physics in the discipline of Physical Sciences, conducted in English**

### **Formal requirements for entering the admission procedure**

Candidates eligible for admission to the *Physics* programme of study at the Doctoral School of Exact and Natural Sciences are the holders of *Magister*, *Magister inżynier*, or equivalent professional title awarded in the field of exact and natural sciences.

In exceptional cases, given the outstanding quality of candidate's academic achievements, a person referred to in Article 186 of the Act who does not hold a *Magister* title, who has completed the undergraduate (first-cycle) programme, or who has completed the third year of long-cycle graduate programme but holds the status of student of a programme in the field indicated above or has graduated from a programme in that field, may also apply for admission to the programme.

In order to confirm the fulfilment of the condition referred to in Article 186, section 2 of the Act, the candidate shall be obliged to submit:

1. two opinions confirming the high quality of the research work carried out and the high level of advancement of such work, issued by academic tutors holding at least the postdoctoral degree or being employees of a foreign university or scientific institution who have significant achievements in scientific issues related to the curriculum, or
2. a certificate of being a beneficiary of the "Diamond Grant" programme of the Ministry of Science and Higher Education.

Whether the candidate meets the condition referred to in Article 186 section 2 of the Act shall be decided by the Director in consultation with the chair of the committee.

### **Qualification criteria**

Candidates are placed on the ranking list in order determined by their final result, calculated on the basis of: grade averages from undergraduate (first-cycle) and graduate (second-cycle) programs, or of the grade average from long-cycle graduate program (0–50 points), candidate's

other achievements (internships, publications, participation in research, schools, conferences, scholarships, and awards), assessed on the basis of the curriculum presented by the candidate (0–10 points), and interview result (0–40 points).

In special cases, not covered in the admission procedure and final result calculation procedure, the decision is made by the committee.

### **Admission procedure**

The  $S$  studies assessment result expressed in points is calculated on the basis of the following formula:

$$S = \left[ \frac{Sb}{Mb} \times 30 + \frac{Sm}{Mm} \times 20 \right]$$

where:

**$Sb$**  stands for the grade average from the undergraduate (first-cycle) program, calculated in accordance with the regulations in power at the university of graduation,

**$Mb$**  stands for the best possible grade,

**$Sm$**  stands for the grade average from the first year of graduate (second-cycle) program, calculated in accordance with the regulations in power at the university of graduation,

**$Mm$**  stands for the maximum (best) grade on the grading scale in power at the university of graduation;

for long-cycle graduate programs,  **$Sb = Sm$**  shall be adopted as the grade average for the completed years of studies.

For grading scales different from the Polish grading scale, the committee decides on the mode of calculation of the  $S$  result.

Candidate's academic achievements are assessed based on the presented curriculum vitae and documents, on a scale from 0 to 10 points by each committee member, and the final result is computed as mean of these grades.

The interview assesses candidate's suitability for the doctoral school and covers the following areas of interest:

- 1) subject of candidate's *Magister* thesis and candidate's academic achievements (0–10 points);
- 2) candidate's interests, and academic and research plans (0–10 points);
- 3) knowledge about the important problems and discoveries in physics, directly related to their previous research and to candidate's planned research (0–10 points).

Each interview point is assessed on the outlined scale, and the interview result is computed as an arithmetic average of grades awarded by each committee member present during the interview, rounded to the second decimal place. On candidate's request, by the committees permission, the interview may be conducted by means of distant communication.

Candidates who do not take part in the interview receive 0 (zero) points.

### **Final result calculation**

The final admission procedure result  $W$  is expressed as a number on a scale from 0 to 100, calculated for all candidates as sum of points earned over the course of the admission procedure.

Only candidates whose final admission procedure result stands at least at 60.00 points, and whose studies results grade stands at least at 35.00 points can be qualified for admission.

## **I. PhD programme of study named *Earth and Environmental Sciences* in the discipline of Earth and Environmental Sciences, conducted in Polish**

### **Formal requirements for entering the admission procedure**

Candidates eligible for admission to the *Earth and Environmental Sciences* programme of study at the Doctoral School of Exact and Natural Sciences are the holders of *Magister*, *Magister inżynier*, or equivalent professional title awarded in the field of exact and natural sciences.

In exceptional cases, given the outstanding quality of candidate's academic achievements, a person referred to in Article 186 of the Act who does not hold a *Magister* title, who has completed the undergraduate (first-cycle) programme, or who has completed the third year of long-cycle graduate programme but holds the status of student of a programme in the field indicated above or has graduated from a programme in that field, may also apply for admission to the programme.

In order to confirm the fulfilment of the condition referred to in Article 186, section 2 of the Act, the candidate shall be obliged to submit:

1. two opinions confirming the high quality of the research work carried out and the high level of advancement of such work, issued by academic tutors holding at least the postdoctoral degree or being employees of a foreign university or scientific institution who have significant achievements in scientific issues related to the curriculum, or
2. a certificate of being a beneficiary of the "Diamond Grant" programme of the Ministry of Science and Higher Education.

Whether the candidate meets the condition referred to in Article 186 section 2 of the Act shall be decided by the Director in consultation with the chair of the committee.

### **Qualification criteria**

Candidates are placed on the ranking list in order determined by the interview result. The interview focuses on candidate's research interests, knowledge in the area of the proposed research, and their motivation for undertaking education at the Doctoral School.

To be admitted to the program, candidate has to obtain at least 51.00 points.

### **Admission procedure**

As a result of the interview, the candidate is awarded points (from 0 to 100 points). The interview may be conducted by separate committees in the area of physical geography and in the field of geological sciences. A separate ranking list is prepared for each of these fields. Candidates who receive a minimum of 51.00 points as a result of an interview are placed on the lists.

### **Final result calculation**

Candidates are placed on the ranking list in order determined by their interview result. Based on the ranking lists (separate for physical geography and geological sciences) and on the number of

places available, list of candidates admitted to the program is established. Other candidates who were awarded 51.00 points or more are placed on waiting lists, separately for physical geography and geological sciences.

## **J. The PhD study programme named *Biology in the discipline of Biological Sciences* conducted in Polish**

### **Formal requirements for entering the admission procedure**

Persons holding the professional title of Master of Science, Master of Science Eng., or an equivalent degree in the field of exact and natural sciences may be admitted to the programme named *Biology* at the Doctoral School of Exact and Natural Sciences.

As an exception, taking into account the best quality of scientific achievements, a person referred to in art. 186 paragraph 2 of the Act, who does not have a master's degree, who is a graduate of the first-cycle studies or a student who has completed the third year of long-cycle studies, but who still has the status of a student in the field of study mentioned above or who has completed such a course, may apply for the programme.

In order to confirm the fulfillment of the condition referred to in Art. 186 paragraph 2 of the Act, the candidate is required to submit:

1. two opinions confirming the best quality of their research work and the high level of advancement of such work, issued by a research fellow holding at least the academic degree of habilitated doctor or being an employee of a foreign higher education institution or a research institution, who has significant achievements in academic issues related to the curriculum, or
2. a certificate of being a beneficiary of the Ministry of Science and Higher Education "Diamantowy Grant" programme.

The director in consultation with the chairman of the committee shall resolve if the candidate fulfills the conditions referred to in Art. 186 para. 2 of the Act.

### **Qualification criteria**

The order of candidates on the ranking list shall be determined by the numerical sum of points obtained as a result of the conducted qualification, determined on the basis of the following three stages:

1. Oral presentation of the research project done by the candidate, assessed on a scale of 0–30 points;
2. An interview assessing the knowledge on the research topic of the presented project, assessed on a scale of 0–50 points;
3. English language exam, assessed on a scale of 0–20 points.

### **Admission procedure**

Separate ranking lists of candidates applying for admission to the *Biology* PhD study programme shall be created, respectively for: (1) Institute of Zoology and Biomedical Research, (2) Institute of Botany and (3) Institute of Environmental Sciences.

A research project thematically related to the planned doctoral thesis shall include: topic, short introduction, research objectives, methodology, expected results. The project consists of a maximum of 3–4 A4 pages.

The candidate shall give a 5-minute oral presentation about the submitted research project, followed by an interview about the field of knowledge covering the research spectrum of the candidate's project.

Both the presentation of the project and the interview shall be conducted in Polish.

The English language exam shall be conducted by the examination team. The candidate shall be assessed according to four categories:

1. Vocabulary + pronunciation;
2. Grammar;
3. Fluency;
4. Interaction.

In each one of these categories, the candidate may receive from 0 to 5 points.

#### **Final result calculation**

The final result of the qualification procedure shall be the sum of the points from the three stages mentioned above and is a number between 0 and 100.

### **K. The PhD study programme named PhD Programme in Biology in the discipline of Biological Sciences conducted in English**

#### **Formal requirements for entering the admission procedure**

Persons holding the professional title of Master of Science, Master of Science, or an equivalent degree in the field of exact and natural sciences may be admitted to the programme named *PhD Programme in Biology* at the Doctoral School of Exact and Natural Sciences.

As an exception, taking into account the best quality of scientific achievements, a person referred to in art. 186 paragraph 2 of the Act, who does not have a master's degree, who is a graduate of the first-cycle studies or a student who has completed the third year of long-cycle studies, but who still has the status of a student in the field of study mentioned above or who has completed such a course, may apply for the programme.

In order to confirm the fulfillment of the condition referred to in Art. 186 paragraph 2 of the Act, the candidate is required to submit:

1. two opinions confirming the best quality of their research work and the high level of advancement of such work, issued by a research fellow holding at least the academic degree of habilitated doctor or being an employee of a foreign higher education institution or a research institution, who has significant achievements in academic issues related to the curriculum, or
2. a certificate of being a beneficiary of the Ministry of Science and Higher Education "Diamantowy Grant" programme.

The director in consultation with the chairman of the committee shall resolve if the candidate fulfills the conditions referred to in Art. 186 para. 2 of the Act.

#### **Qualification criteria**

The order of the candidates on the ranking list shall be determined by their final numerical result of the qualification based on the result of the interview (0-100 points).

#### **Admission procedure**

During registration in the system, the candidates for the doctoral school programme shall present up to two research topics of interest to them, which assigns them priority. Research topics shall be posted on the doctoral school website at least two weeks before the start of enrolment.

The interview shall be conducted in English and assessed on a scale from 0 to 100

During the interview, candidates shall give a short oral presentation of research plans for their doctoral thesis, together with the reasons for the selection of the topics. Then they shall answer enrolment committee questions on the topic of the doctoral thesis and related issues. In the next part of the interview, they shall be given a summary of the publication to read and will have to discuss it. The knowledge of the planned research scope and the ability to use English shall be primarily assessed.

The candidate's qualification result for the entire qualification procedure shall be the number of points obtained during the interview.

Candidates carry out research topics according to the priorities declared at the registration stage in the system, in accordance with the following principle:

1. the candidate at the first place on the ranking list carries out the topic which he/she assigned as the first priority;
2. the candidate at the second place on the ranking list carries out the topic which he/she assigned as the first priority, unless the topic has already been selected by the candidate higher on the list; then he/she chooses the topic which he/she gave the second priority, etc.

### **Final result calculation**

The final result of the enrolment procedure  $W$  shall be a number from 0 to 100 determined for all candidates as the number of points obtained during the interview.

## **L. PhD programme of study named Technical Computer Science in the discipline of Technical Computer Science and Telecommunications conducted in English**

### **Formal requirements for entering the admission procedure**

Candidates eligible for admission to the *Technical Computer Science* programme at the Doctoral School of Exact and Natural Sciences are the holders of *Magister*, *Magister inżynier*, or equivalent professional title awarded in any field.

In exceptional cases, given the outstanding quality of candidate's academic achievements, a person referred to in Article 186 of the Act who does not hold a *Magister* title, who has completed the undergraduate (first-cycle) programme, or who has completed the third year of long-cycle graduate programme but holds the status of student of a programme in the field indicated above or has graduated from a programme in that field, may also apply for admission to the programme.

In order to confirm the fulfilment of the condition referred to in Article 186, section 2 of the Act, the candidate shall be obliged to submit:

1. two opinions confirming the high quality of the research work carried out and the high level of advancement of such work, issued by academic tutors holding at least the postdoctoral degree or being employees of a foreign university or scientific institution who have significant achievements in scientific issues related to the curriculum, or
2. a certificate of being a beneficiary of the "Diamond Grant" programme of the Ministry of Science and Higher Education.

Whether the candidate meets the condition referred to in Article 186 section 2 of the Act shall be decided by the Director in consultation with the chair of the committee.

### **Qualification criteria**

Candidates are assessed by the committee during the interview. The interview comprises two parts, assessed separately. In the first part of the interview, candidate is assessed on the results of their studies, their special achievements, and general knowledge (0–50 points). In the second part of the interview, candidate is assessed on their *Magister* thesis and planned research project (0–50 points).

### **Admission procedure**

During the first part of the interview the committee assesses on the results of their studies and their achievements outlined in the curriculum vitae. This part also verifies and assesses candidate's knowledge in the scope not exceeding the undergraduate and graduate programmes in the field of Computer Science.

During the second part of the interview the committee assesses the *Magister* thesis, proposed research project, and candidate's readiness for undertaking research. This part also verifies candidate's knowledge and qualifications in the proposed area of research.

### **Final result calculation**

The final admission procedure result  $W$  is expressed as a number on a scale from 0 to 100, calculated as follows:

$$W = A + B,$$

where:

$A$  stands for the result of assessment of the first part of the interview, on a scale from 0 to 50, and

$B$  stands for the result of assessment of the second part of the interview, on a scale from 0 to 50.

### **Qualification for admission**

The candidates who are qualified for admission have received the top scores, i.e. the qualification score at the level not lower than 67.00 points; whereas, the admission depends on the position in the ranking list, taking into account the number of vacancies.