

ENGINEERING SCHOOL OF LORENA - EEL/USP
GRADUATION PROGRAM IN INDUSTRIAL BIOTECHNOLOGY- PPGBI
NOTICE FOR THE SELECTION OF MASTER'S, DOCTORATE'S, AND DIRECT
DOCTORATE'S

Applications for the Graduation Program in Industrial Biotechnology (PPGBI) are open at EEL-USP: Courses – Masters, Doctorates, and Direct Doctorates. Applications must be made by email: ppgbi@eel.usp.br

The important dates for Selection are described in Item “8”.

Number of vacancies: 8 for the Master and 5 for the Doctorate.

1. DOCUMENTS REQUIRED IN THE REGISTRATION FOR THE MASTER'S SELECTION

1.1. Registration Form (model available at <http://cpg.eel.usp.br/formulario-cpg> - **Form 8 – Graduation in Industrial Biotechnology, available only in Portuguese; for foreigners, see https://docs.google.com/document/d/1rpW0Si1_YFtgxPz4HrPaF-rAS3qXiHim/edit?usp=sharing&ouid=115804408467383485674&rtpof=true&sd=true**);

1.2. Copy of the *Diploma* or *Declaration of Completion* of the undergraduate course, containing the date of graduation.

1.2.1. Candidates attending the last semester of undergraduate courses are not required to present the Diploma or the Declaration of Completion. These documents will be essential for the execution of the registration if the candidate is classified;

1.3. **Annex 1** duly completed, **covering only the curricular items to be scored in this selection process.** Attach a simple copy of the respective supporting documents. The supporting documents mentioned here refer to:

1.3.1. copies of the first pages of publications in journals, and in the case of an article accepted for publication, proof of acceptance must be added (i.e: electronic message sent by the journal editor);

1.3.2. copies of the covers of published books containing the authors' names, and in the case of a book chapter, the first page of the chapter must be added;

1.3.3. copy of the entire content of the complete works published in conference proceedings;

1.3.4. copies of abstracts published in conference proceedings,

1.3.5. copy of proof of oral presentation of work in congress;

1.3.6. copy of the document proving Scientific Initiation issued by the Educational Institution or Development Agency declaring the validity of the project;

1.3.7. copy of the monitoring document issued by the Educational Institution;

1.3.8. copy of the document proving the filing or granting of a patent, only official documents from official patent granting institutions (in the case of Brazil – INPI) being accepted;

1.3.9. copy of *the lato sensu* graduation certificate of completion, with proof of the total number of hours of the course;

1.4. Copy of Undergraduate Academic Transcript;

1.5. Copy of CPF (Individual Taxpayer Registration) and RG (ID Card) (Attention: Driver's License is not valid). In the case of foreign applicants, these documents must be replaced by a copy of the individual's identification sheets in the passport.

2. DOCUMENTS REQUIRED IN THE REGISTRATION FOR SELECTION OF THE DOCTORATE AND DIRECT DOCTORATE:

2.1. **PhD** (with the previous obtaining of the title of Master)

2.1.1. Registration Form (model available at <http://cpg.eel.usp.br/formulario-cpg> - **Form 8 – Graduation in Industrial Biotechnology, available only in Portuguese; for foreigners, see https://docs.google.com/document/d/1rpW0Si1_YFtgxPz4HrPaF-rAS3qXiHim/edit?usp=sharing&oid=115804408467383485674&rtpof=true&sd=true**);

2.1.2. Copy of Master's Academic Transcript;

2.1.3. **Annex 1** duly completed, **covering only the curricular items to be scored in this selection process**. Attach a simple copy of the respective supporting documents. The supporting documents mentioned here refer to:

2.1.3.1. copies of the first pages of publications in journals, and in the case of an article accepted for publication, proof of acceptance must be added (i.e: electronic message sent by the journal editor);

2.1.3.2. copies of the covers of published books containing the authors' names, and in the case of a book chapter, the first page of the chapter must be added;

2.1.3.3. copy of the entire content of the complete works published in conference proceedings;

2.1.3.4. copies of abstracts published in conference proceedings,

2.1.3.5. copy of proof of oral presentation of work in congress;

2.1.3.6. copy of the document proving Scientific Initiation issued by the Educational Institution or Development Agency declaring the validity of the project;

2.1.3.7. copy of the monitoring document issued by the Educational Institution;

2.1.3.8. copy of the document proving the filing or granting of a patent, only official documents from official patent granting institutions (in the case of Brazil – INPI) being accepted;

2.1.3.9. copy of the *lato sensu* graduation certificate of completion, with proof of the total number of hours of the course;

2.1.4. copy of Graduation Academic Transcript;

2.1.5. copy of CPF and RG (Attention: Driver's License is not valid). In the case of foreign applicants, these documents must be replaced by a copy of the individual's identification sheets in the passport.

2.2. DIRECT DOCTORATE

2.2.1. Registration Form (model available at <http://cpg.eel.usp.br/formulario-cpg> - **Form 8 – Graduation in Industrial Biotechnology, available only in Portuguese; for foreigners, see https://docs.google.com/document/d/1rpW0Si1_YFtgxPz4HrPaF-rAS3qXiHim/edit?usp=sharing&oid=115804408467383485674&rtpof=true&sd=true**);

2.2.2. Copy of Graduation Academic Transcript;

2.2.3. **Annex 1** duly completed, **covering only the curricular items that receive points in this selection process**. Attach a simple copy of the respective supporting documents. The supporting documents mentioned here are listed in item 2.1.3.

2.2.4. Research Project (maximum 20 pages);

2.2.5. Referral letter from the advisor containing the justifications for the request, based on the merit and originality of the research work proposal, on the academic performance and scientific maturity of the candidate for direct doctorate.

2.2.6. Copy of CPF and RG (Attention: Driver's License is not valid). In the case of foreign applicants, these documents must be replaced by a copy of the individual's identification sheets in the passport.

3. CRITERIA FOR SELECTING MASTER'S, DOCTORATE'S, AND DIRECT DOCTORATE'S

The complete selection process will consist of the attribution of a grade resulting from the compilation of the curricular information presented in annex 1 and the respective supporting documents, in addition to the grade attributed to the written test.

3.1. A grade from zero to ten points will be assigned to the written test;

3.2. The final grade will be calculated as follows:

3.2.1. For candidates with a grade in the written test greater than or equal to 7.0, the final grade will be the highest of the following:

3.2.1.1. Written test score;

3.2.1.2. Score calculated from Equation 1.

$$\text{Grade} = [0.5 \times (\text{Curriculum Information}) + 0.5 \times (\text{Written Test})] \quad \text{(Equation 1)}$$

3.2.2. For candidates with a grade in the written test lower than 7.0, the final grade will be that of Equation 1 mentioned in item 3.2.1.2.

3.3. For use in Equation 1 (item 3.2.1.2), the compilation of curriculum information will result in a grade from zero to ten points, with the score assigned according to item 5.

3.4. The candidate who, at the end of the selection process, has obtained a Final Grade greater than or equal to 5.0 (five) will be considered classified.

3.5. Candidates classified with the best averages will be approved within the limit of the number of places in the program. The final release of the results will only inform if the candidate passed or failed, regardless of the ranking order.

3.6. In the event of a tie in the limiting position, resulting from the number of vacancies pre-set in the public notice, the tie-breaking criterion will be based on the highest score in the written test. If the tie persists, the tie will be broken by the highest score referring to the performance coefficient included in the academic transcript of the graduation, in the case of candidates for the master's and direct doctorate, or the master's, in the case of candidates for the doctorate. If the tie persists, the candidate of older age will have the advantage.

3.7. The test will be prepared in Portuguese and English, and can be answered in one of these languages.

4. SPECIFIC CRITERIA FOR THE SELECTION OF DIRECT DOCTORATE:

4.1. The candidate who meets the criteria mentioned in item 3.4 of this notice will be considered classified for the project defense stage.

4.2. The classified candidate will be submitted to an Examining Board to assess their scientific maturity and the suitability of the research for the Doctorate level.

4.3. The date for the Defense of the Research Project of candidates classified for the Direct Doctorate will be later communicated by the PPGBI Secretariat.

4.4. The evaluation of the research project will consider, in addition to the written text, the candidate's performance in:

- 4.4.1. Oral presentation of the Research Project, which must last a minimum of 20 minutes and a maximum of 30 minutes, and the candidate whose presentation is outside this time range will be disqualified;
- 4.4.2. Discussion of the Research Project by the members of the Examining Board.
- 4.5. The Examining Board, designated by the Program Coordination, will be made up of at least 3 (three) members with a minimum degree of PhD, and the future supervisor cannot be part of this Committee.
- 4.6. The candidate will be considered suitable for the Direct Doctorate when he/she obtains approval from the majority of the members of the Examining Board; otherwise, they may be recommended to enroll in the Master's program in the same program.
- 4.7. Candidates classified with the best averages will be approved within the limit of the number of vacancies in the program. The number of Doctorate vacancies includes Doctoral and Direct Doctorate vacancies.

5. CRITERIA FOR THE ANALYSIS OF CURRICULAR INFORMATION IN ANNEX 1

- 5.1. The grade corresponding to the curriculum information will be calculated by the sum of the scores assigned to the following items:
- a) "0.5 x the average of the subjects", this average is calculated based on the academic record according to item 5.2;
 - b) Scientific initiation;
 - c) Monitoring at undergraduate course;
 - d) Publications.
- 5.1.1. If the sum of the scores exceeds ten points, the candidate will receive a score of ten.
- 5.1.2. Undocumented information will not be counted in the selection.
- 5.2. Average of subjects: for candidates for master's and direct doctorate, the performance coefficient of the undergraduate academic record will be considered. For doctoral candidates, the student's grades contained in the master's academic transcript will be considered. To obtain the average of the student's grades obtained in the courses taken in the master's degree, the following criteria will be applied: each concept A, B, C, and D will be assigned 10.0, 7.5, 5.0, and 0 (zero) points, respectively. In this case, the average of the subjects will be calculated by the sum of the points attributed to the respective concepts obtained by the candidate divided by the number of subjects taken.
- 5.2.1. If there are candidates whose academic record score involves a maximum grade other than 10, there will be normalization to equal the maximum grade to the value of 10.
- 5.3. Scientific Initiation¹ (SI): 2.0 points for periods equal to or greater than 6 months with a grant from a funding agency, regardless of the number of scientific initiation projects developed or the total time; 0.1 points for each month of SI without a funding agency grant or less than 6 total months of grant, limited to a maximum of 2.0 points. At the discretion of the CCP-PPGBI, an experimental research activity carried out under another name may be counted as scientific initiation, provided that it is duly proven with official institutional documents.

¹ Explanation for foreigners: an undergraduate research work usually performed by students in Universities in Brazil. It is an optional individual research work carried out by the student (with a supervisor), and usually is not corresponding to undergraduate thesis, which is mandatory in most Brazilian universities. If any similar activity was performed in any country, it could be considered, if proved by official document of the University.

5.4. Undergraduate monitoring²: 0.5 points per semester up to a maximum of 1.0 points. Monitoring can only be considered if carried out during the undergraduate course.

5.5 Publications in which the candidate is the author:

5.5.1 Works published in congresses can only be counted if they have already been presented.

5.5.2 Scoring for Publications (maximum 5 points):

5.5.2.1. For each scientific article published in a journal or accepted for publication, the evaluation will be based on the journal qualifier, published by the "Journal Citation Report" (most current base year available), as indicated below:

Impact Factor (IF) \geq 2.0 (2.0 points)

FI \geq 0.5 and $<$ 2.0 (1.0 point)

FI $<$ 0.5 or not measured by the JCR (0.2 points)

5.5.2.2. Patent filed or granted in which the applicant is an inventor: 1.0 points each;

5.5.2.3. For each complete work published in annals of scientific events (equal to or greater than 3 pages printed in the annals of the event): 0.2 points (limited to 5 works)

5.5.2.4. For each abstract published in proceedings of scientific events: 0.1 points (limited to 5 abstracts)

5.5.2.5. If the work in congress was presented orally: 0.1 additional points for each work scored according to items 5.5.2.3 and 5.5.2.4.

5.5.2.6 Book and Book Chapter: 1.0 points each (limited to 3);

5.6. *Lato sensu* specialization course with a minimum workload of 360 hours offered by an accredited higher education institution: 1.0 points, limited to a single course.

6. TOPICS OF THE WRITTEN TEST

6.1. Biochemistry: a) Amino acids and proteins, b) Enzymes: kinetics and inhibition, c) Sugars and polysaccharides, d) Lipids, e) Nucleotides, Nucleic Acids and Genetic Information Technology, f) Carbohydrate Metabolism; g) Lipid metabolism.

6.2. Chemistry: a) Chemical bonds, b) Shape and structure of molecules, c) Fundamentals of physical equilibrium (volatility and solubility), d) Acids and bases.

6.3. Microbiology: a) Characterization of microorganisms, b) Evolutionary microbiology and microbial diversity of the three domains, c) Nutrition and cultivation of microorganisms, d) Control of microbial growth.

6.4. Bibliographic references:

6.4.1. Biochemistry: NELSON, D.L.; COX, M.M. Lehninger Principles of Biochemistry 5th (fifth) edition. W.H. Freeman & Company, 2008.

6.4.2. Chemistry: ATKINS, P.; JONES, L. Chemical Principles The Quest for Insight. W.H. Freeman, 2010.

6.4.3. Microbiology: MADIGAN, M.T.; MARTINKO, J.M., DUNLAP, P.V., CLARK, D.F. Brock Biology of Microorganisms. 12th ed. Benjamin Cummings, 2008.

² Undergraduate monitoring: a usual individual activity of undergraduate students in Brazilian universities. It is related to activities of helping the learning of other undergraduate students in specific courses. If any similar activity was performed in any country, it could be considered, if proved by official document of the University.

- ✓ A TUTORIAL WITH EXAMPLES OF TYPICAL QUESTIONS OF THE SELECTION TEST IS AVAILABLE (only in Portuguese) ON THE LINK: <https://sites.usp.br/ppgbi/wp-content/uploads/sites/212/2016/08/tutorial-para-candidatos-ao-PPGBI-atual.pdf>

7. SELECTION CRITERIA FOR CANDIDATES WHO HAVE SCHOLARSHIPS GRANTED BY BODIES, COMPANIES, OR OTHER NATIONAL OR INTERNATIONAL INSTITUTIONS

The selection of Master's, Doctorate, and Direct Doctorate candidates who have scholarships granted by bodies, companies, or other national or international institutions will consist of the curriculum vitae analysis carried out by an examining board defined by the Program Coordinating Committee. In this case, the maximum number of vacancies provided in this notice does not apply.

8. IMPORTANT DATA OF THE SELECTION PROCESS

8.1. Calendar:

Registrations (*)	Written Test Date	Result	Registration (*)
Oct/17/2022 to Dec/02/2022	Dec/08/2022	Dec/16/2022	The date will be announced together with the result.

(*) **Registration and/or Enrollment:** Office Hours: from 8:30 a.m. to 11:00 a.m. and from 2:30 p.m. to 5:00 p.m.

8.2. **Written Test:** Start: 8:30 a.m. (10 min tolerance) - End: 11:30 a.m. (Brasilia/Brazil time).

8.3. Application of the Written Test:

The written test will be carried out online.

8.3.1. ONLINE TEST (VIDEOCONFERENCE): the link to access the Google Meet platform will be sent to the email provided in the candidates' registration form on December 08th, 2022, at 7:45 a.m. (Brasilia time, Brazil).

It is recommended that candidates access the link at least 20 (twenty) minutes before the test start time (scheduled start at 8:30 a.m. – Brasília time, Brazil).

8.3.2. ACCESS TO TEST QUESTIONS: the link will be made available to candidates during the videoconference (via Google Meet) and the test will end at 11:30 am (Brasilia time, Brazil).

8.3.3. SUBMISSION OF THE TEST: At the end of the questions, in the system itself, there will be a button to send the test.

The test must be sent, without fail, by 11:45 a.m. (Brasilia time, Brazil), under penalty of disqualification of the candidate.

During the test, candidates must remain in the videoconference with the camera on, which will be recorded for registration purposes. It is the candidate's responsibility to provide a structure for the exam (computer equipment and adequate internet access for videoconferencing). At the beginning of the test, the candidate must present an official document with a recent photo, proving his/her identity. During the execution of the test, the candidate may be monitored by specific programs to detect fraud.

8.4. Enrollment can only be carried out at the Secretariat of the Graduate Commission - CPG of EEL/USP, from 8:30 a.m. to 11:00 a.m. and from 2:30 p.m. to 5:00 p.m., by the candidate himself/herself or his/her legal representative.

9. DOCUMENTS REQUIRED FOR ENROLLMENT IN THE MASTERS:

- 9.1. Application for **Regular First Enrollment**, duly completed and signed with the agreement of the Advisor. If the student does not have a defined advisor, the application must be duly signed by the Program Coordinator, who will be his/her academic advisor for a maximum period of 120 days. (Application available at <http://cpg.eel.usp.br/formulario-cpg> – **Form 1 - Graduation in Industrial Biotechnology - PGBI**);
- 9.2. Copy of the Diploma or Declaration of Completion of the Graduation course, containing the date on which the **Graduation** was carried out;
 - 9.2.1. *This document is essential for the registration to be carried out;*
- 9.3. Copy of Graduation Academic Transcript;
- 9.4. Copy of CPF – presentation is waived if it appears on the RG (mandatory for Foreigners);
- 9.5. Copy of RG (Driver's License, Class Registration, Military Registration, or others will not be accepted).
- 9.6. Copy of the RNE or Protocol (which contains the type of Visa: Temporary IV or Mercosur or Permanent) with number and validity, for foreign applicants.
- 9.7. Copy of Passport (sheets with identification, passport number, and validity), for foreign applicants.
- 9.8. Copy of Birth and/or Marriage Certificate;
- 9.9. A recent 3x4 photo;
- 9.10 Copy of COVID Vaccination Proof or Copy of *Conecte-SUS*, including doses and boosters.

10. DOCUMENTS REQUIRED FOR ENROLLMENT IN THE DOCTORATE:

- 10.1. Application for Regular First Enrollment, duly completed and signed with the agreement of the Advisor. If the student does not have a defined advisor, the application must be duly signed by the Program Coordinator, who will be his/her academic advisor for a maximum period of 120 days. (Application available at <http://cpg.eel.usp.br/formulario-cpg> – **Form 1 - Graduation in Industrial Biotechnology - PGBI**);
- 10.2. Copy of the Master's Diploma or Declaration of Completion;
- 10.3. Copy of the Graduation Course Diploma;
- 10.4. Copy of Graduation Academic Transcript;
- 10.5. Copy of the Master's Academic Transcript;
- 10.6. Copy of CPF – presentation is waived if it appears on the RG (mandatory for Foreigners);
- 10.7. Copy of RG (Driver's License, Class Registration, Military Registration, or others will not be accepted).
- 10.8. Copy of the RNE or Protocol (which contains the type of Visa: Temporary IV or Mercosur or Permanent) with number and validity, for foreign applicants.
- 10.9. Copy of Passport (sheets with identification, passport number, and validity), for foreign applicants.
- 10.10. Copy of Birth and/or Marriage Certificate;
- 10.11. A recent 3x4 photo;
- 10.12 Copy of COVID Vaccination Proof or Copy of *Conecte-SUS*, including doses and boosters.

11. DOCUMENTS REQUIRED FOR ENROLLMENT IN THE DIRECT DOCTORATE:

- 11.1. Application for Regular First Enrollment, duly completed and signed with the agreement of the Advisor. Application available at <http://cpg.eel.usp.br/formulario-cpg> – **Form 1 - Graduation in Industrial Biotechnology - PGBI**);
- 11.2. Copy of the Diploma or Declaration of Completion of the Graduation course, containing the date on which the **Graduation** was carried out;
- 11.2.1. This document is essential for the registration to be carried out;
- 11.3. Copy of Graduation Academic Transcript;
- 11.4. Copy of CPF – presentation is waived if it appears on the RG (mandatory for foreigners);
- 11.5. Copy of RG (Driver's License, Class Registration, Military Registration, or others will not be accepted).
- 11.6. Copy of the RNE or Protocol (which contains the type of Visa: Temporary IV or Mercosur or Permanent) with number and validity, for foreign applicants.
- 11.7. Copy of Passport (sheets with identification, passport number, and validity), for foreign applicants.
- 11.8. Copy of Birth and/or Marriage Certificate;
- 11.9. A recent 3x4 photo;
- 11.10 Copy of COVID Vaccination Proof or Copy of *Conecte-SUS*, including doses and boosters.

12. FINAL CONSIDERATIONS

- 12.1. The PPGBI CCP will be responsible for applying the criteria described in this notice, except for the requirements for the First Regular Enrollment.
- 12.2. The approval of the results will be carried out by the CPG.
- 12.3. Omissions will be resolved by the CPG, and in the event of a request for a review of evidence, the Program's CCP will respond to the requests and notify the CPG. Requests for proof review must be submitted in writing within 2 working days after the result is announced.
- 12.4. This selection will only be valid for the enrollment period stipulated in this notice.
- 12.5. The candidate's registration implies acceptance of the rules and instructions for the selection process contained in this Notice and in the communications already issued or that may be made public.

12.6. Complementary information:

- For information regarding scholarships from PPGBI/EEL-USP, access the link:

<http://sites.usp.br/ppgbi/bolsas-de-estudo/>

- Secretary of Graduate Studies in Industrial Biotechnology:

Tel: (12) 31595034

Site: <http://sites.usp.br/ppgbi/>

Email: ppgbi@eel.usp.br

-The PPGBI email address is: ppgbi@eel.usp.br. All documents attached to the message must be in pdf format. All registrations made by e-mail will be answered with confirmation of receipt. If this response is not sent within 2 working days, the candidate must contact the course coordinator, Prof. Júlio César dos Santos, by phone 55 12 981143150.

- Graduate Commission – CPG/EEL-USP:

- Tel (12) 31595051 or 31595015

- **Email:** cpg@eel.usp.br

ANNEX 1

CURRICULUM INFORMATION FOR THE PURPOSES OF SELECTION OF CANDIDATES IN THE GRADUATION PROGRAM IN INDUSTRIAL BIOTECHNOLOGY

Name: _____

CPF: _____

CURRICULUM INDICATORS

According to item 5.1.2. Undocumented information will not be counted in the selection.

Scientific research

Project title:

Advisor:

Time in months:

Institution:

Funding Agency (if any):

Monitoring at Graduation

Subject:

Course:

Institution:

Time in semesters:

School Records

Course:

Institution:

Performance coefficient:

Publications (indicate each one separately)

- *Article published in a scientific journal:*
Authors, article title, journal, volume, year of publication, and homepage:
- *Book or book chapter:*
Authors, book/chapter title, year of publication, and homepage:
- *Patent filed or granted:*
Inventors, patent title, year of filing or publication, patent identifier number, filing institute:
- *complete work* published in scientific event proceedings (equal to or greater than 3 printed pages in total):
Authors, title of the work, name of the proceedings of the event, year of publication, and initial and final pages:

Was it an oral presentation? _____

- *published abstract* at a scientific event:

Authors, title of the work, name of the proceedings of the event, year of publication:

Was it an oral presentation? _____

Lato sensu specialization course with a minimum workload of 360 hours:

Course:

Institution: