

UNIVERSITY OF SÃO PAULO
FACULTY OF PHILOSOPHY, SCIENCES AND LETTERS OF RIBEIRÃO PRETO.

ANNOUNCEMENT

The Graduate Services of the Faculty of Philosophy, Sciences, and Letters of Ribeirão Preto, University of São Paulo, announces that the Process for Admission to the Graduate Program in **CHEMISTRY** is receiving applications for the program starting in the **first semester/2019**. There are 40 vacancies for the M.Sc. level and 30 vacancies for the PhD level without M.Sc. degree.

Holders of a M.Sc. Degree in Chemistry, Chemical Engineering, Pharmacy, and related courses can apply.

Applications will be received until **23rd November 2018**, from 08:30 a.m. to 11: 30 a.m. and from 02:00 p.m. to 05:00 p.m. for the Admission test that will take place on 07th December 2018 (Program starting in the first semester/2019).

Candidates must apply in person, by power of attorney, or by mail at Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto - Serviço de Pós-Graduação, Avenida Bandeirantes, 3900 – Campus da USP - Ribeirão Preto – SP, CEP: 14040-901. The mailing date will be considered as the application date.

Exam of Proficiency in the English Language:

Candidates should enroll for the Exam of Proficiency in English offered by the Program by sending an e-mail message to dq-pg-quimica@ffclrp.usp.br. The candidate will receive confirmation of the enrollment by email, which will be considered proof of enrollment in the English Proficiency Test. If the candidate does not receive this confirmation 24 h after they send the message, they should enroll again. Candidates should enroll for the Exam of Proficiency in English on the following dates:

- from 01st to 23rd November 2018 for the exam on 07th December 2018, offered at the M.Sc. level and Ph.D. level without M.Sc. degree.
- from 01st to 23rd February 2019 for the extra exam on 11th March 2019, only offered at the Ph.D. level without M.Sc. degree.

During the exams, candidates are not allowed to use electronic devices of any nature or any devices that allow them to communicate with people outside the examination room. All electronic devices must be turned off and handed to the invigilators. If the candidate fails to abide by this rule, s/he will be penalized and even declassified.

The following documents must be presented at the time of application:

M.Sc. level:

- Application form (available at: <http://sites.usp.br/quimica-rp/> Formulários);
- Copy of the PASS result in the English language proficiency test offered by the Graduate Program in Chemistry free of charge on pre-set dates announced at <http://sites.usp.br/quimica-rp/> or proof of enrollment for the Exam of Proficiency in English offered by the Program on the pre-set dates published in this Announcement.

Alternatively, the certificates listed below, with appropriate scores, will be accepted.

- TOEFL (*Test of English as a Foreign Language*): Paper-based test: 472 points; Computer-based test: 150 points; and Internet-based test: 52 points
- TOEIC (*Test of English for International Communication*): 496 points.
- IELTS: score 4.5
- Cambridge PET or Cambridge Preliminary
- WAP: 50 points.
- Copy of birth and/or marriage certificate;
- Copy of the Identity Card (the driver's license will not be accepted for academic purposes);
- Copy of the taxpayer's card;
- Copy of the Voter Identification Card;
- Copy of the Military Service Certificate;
- Copy of passport for foreign applicants;
- Copy of the front and verse of the undergraduate degree diploma; certificate of course conclusion with the date the degree was obtained; or statement of the Higher Education institution saying that the candidate is attending the last semester of the undergraduate course.
- Copy of the undergraduate studies academic record;
- *Curriculum vitae* - model available at: <http://sites.usp.br/quimica-rp/> Formulários
- Two suggestions of Professors of other Institutions with the corresponding telephone number and email address;

Ph.D. level without M.Sc. degree:

- Application form (available at: <http://sites.usp.br/quimica-rp/> Formulários);
- Future advisor's commitment letter (available at: www.ffclrp.usp.br – Pós-Graduação: Formulários);

- Copy of the PASS result in the English language proficiency test offered by the Graduate Program in Chemistry, PhD level, free of charge on pre-set dates announced at <http://sites.usp.br/quimica-rp/>.

Alternatively, the certificates listed below, with appropriate scores, will be accepted.

- TOEFL: Paper-based test: 500 points; Computer-based test: 190 points; and Internet-based test: 64 points
 - IELTS: score 5.5
 - Cambridge FCE or Cambridge First level C
 - Michigan: ECPE level;
 - WAP: Writing for Academic Purposes – 50 points.
- Copy of birth and/or marriage certificate;
 - Copy of the Identity Card (the driver's license will not be accepted for academic purposes);
 - Copy of the taxpayer's card;
 - Copy of the Voter Identification Card;
 - Copy of the Military Service Certificate;
 - Copy of passport for foreign applicants;
 - Copy of the front and verse of the undergraduate degree diploma;
 - Copy of the undergraduate studies academic record;
 - *Curriculum vitae* - model available at: <http://sites.usp.br/quimica-rp/> Formulários;
 - Two suggestions of Professors of other Institutions with the corresponding telephone number and email address;
 - A copy of the Research Project.

Candidates that fail to present all the required documents will not have their application accepted by the Program.

The candidate will have to take a General Knowledge Test in Chemistry. There are four compulsory questions and twelve elective questions in the areas of Biochemistry, Biotechnology, Analytical Chemistry, Inorganic Chemistry, Organic Chemistry, and Physical Chemistry (two questions each), from which the candidate has to choose four questions. To be eligible for enrollment in the Program, the candidate has to score at least 5.0 in this Test and must provide proof of proficiency in the English language.

The candidates approved in the Admission Test for the Ph.D. level without M.Sc. degree will be interviewed by an Examination Board about their Curriculum Vitae and Research Project. The Board will assess the applicant's knowledge of the Research Project, basic knowledge in the concentration area, scientific maturity, and Research Project adequacy to the Ph.D. level. Members of the Examination Board will assign the applicant a score ranging from zero to ten.

For admission in the Program, the applicant must be assigned a score of at least six by at least two members of the Board.

The written Admission test will take place on **07th December 2018**, at 08 a.m, at the Department of Chemistry of the Faculty of Philosophy, Science, and Letters of Ribeirão Preto, for the Graduate program starting in the first semester/2019.

The Exam of Proficiency in English will take place on **07th December 2018**, from 02 p.m. to 04 p.m. for the M.Sc. level and from 02 p.m. to 05 p.m. for the Ph.D. level and Ph.D. level without M.Sc. degree.

Candidates approved in the Admission Test and in the Exam of Proficiency in English will choose an advisor from a list previously announced by the Program. It is recommended that the candidate get in contact with the future advisor previously.

Written test program:

General Chemistry

Suggested reference: Loreta Jones e Peter Atkins – Princípios da Química: Questionando a vida moderna e o meio ambiente.

- Chemical bonds
- Atomic theory
- Stoichiometry
- Periodic properties
- Gases, solids, and liquids and phase changes
- Chemical kinetics

Specific areas:

Biochemistry:

Suggested reference: D.L. Nelson e M.M. Cox. Lehninger - Princípios de Bioquímica. 4^a. Ed. 2007. Editora Sarvier

- Enzymes
- Protein Structure

Biotechnology:

Suggested reference: James D. Watson; Tania A. Baker; Stephen P. Bell; Alexander Gann; Richard Losick; Michael Levine (2006). Biologia Molecular do Gene. 5^a edição, Artmed Editora.

- Recombinant DNA technology

Suggested reference: BORZANI, W.; SCHMIDELL, W.; LIMA, U. A.; AQUARONE, E. Biotecnologia industrial – fundamentos. São Paulo: Edgard Blücher, 2001.

- Kinetics of fermentative processes

Organic Chemistry:

Suggested references:

1. M. G. Constantino, Química Orgânica, Volumes 1, 2 e 3, LTC - Livros Técnicos e Científicos Editora: Rio de Janeiro, 2008.
 2. Organic Chemistry, Jonathan Clayden, Nick Greeves, Stuart Warren, 2^a edição, Oxford, 2012| ISBN-10:0199270295
 3. P.Y. Bruice, Química Orgânica, Volumes 1 e 2 4^a edição (traduzida da 4a edição original), Pearson Prentice Hall: São Paulo, 2006.R. Morrison, R. Boyd, Química Orgânica, 13^a edição (traduzida da 6^a edição original), Fundação Calouste Gulbenkian: Lisboa, 1996.
 4. J. McMurry, Química Orgânica, Volumes 1 e 2, 6a edição norte-americana (tradução técnica de A. F. Nogueira e I. A. Bagatin), Pioneira-Thomson Learning: São Paulo, 2005.
 5. T. W. G. Solomons, C. B. Fryhle, Organic Chemistry, 9th edition, John Wiley & Sons: New York, 2007.
- Structure of organic compounds: physical properties, stereochemistry and spectrophotometric analysis.
 - Organic functions: preparation of organic compounds and their reactions

Physical-chemistry:

Suggested reference: ATKINS – Físico-Química - 7^a Edição – Editora LTC - Peter Atkins e Julio de Paula

- Thermodynamics

Inorganic Chemistry:

- Coordination Chemistry: Bond Theory and Electronic Spectroscopy.

Analytical Chemistry:

Suggested reference: - Skoog, D.A.; West, D.M.; Holler, F.J. & Crouch, S.R. - "Fundamentos de Química Analítica", 8^a ed., (Grassi, M.T. – tradutor e Célio Pasquini, revisão), São Paulo, Pioneira – Thompson Learning (2006), 999 p. + apêndices. ISBN 85-221-0436-0

- Chemical Equilibrium: acid-base, redox, complexation, and precipitation.

Holders of a Master Degree valid in all the Brazilian territory may apply for the Graduate Program, Ph.D. level at any time of the year according to the regulations at <http://sites.usp.br/quimica-rp/>.

The Coordination of the Graduate Program in Chemistry will forward a list of the candidates selected during the admission process to the FFCLRP/USP Graduate Studies Service. Please note that the documentation presented at the Graduate Services Office will remain there for 60 days after the Admission results are published. After this period, if the applicant does not collect the documents, they will be sent to recycling.

For further information, please contact the Faculty Graduate Studies Service, where the selected candidate will also have to enroll for the Program on pre-set dates arranged by the Graduate Studies Commission. The following documents and forms (available at: <http://sites.usp.br/quimica-rp/> – Formulários) must be presented at the time of enrollment:

Documents for enrollment:

- a) Request for Enrollment – New students M.Sc. or Ph.D level
- b) One photograph measuring 3 cm by 4 cm
- c) The candidates that had not finished their undergraduate course at the time they applied for the Program must now present a certificate of course conclusion with the date the degree was obtained.