

FACULTAD DE  
INGENIERÍA Y CIENCIAS



udp



NÚCLEO DE  
ASTRONOMÍA udp

**Regulations of the Doctoral Program in Astrophysics of the  
Universidad Diego Portales**

**Year 2018**

## **Title I. Doctoral Program in Astrophysics**

**Art. 1.** The **Doctoral Program in Astrophysics** of the Universidad Diego Portales depends on the Faculty of Engineering and Sciences and leads to the academic degree of Doctor in Astrophysics. The degree certifies the ability of the graduate to perform original and independent research, and of generating new knowledge in the field of astrophysics.

## **Title II. Of the Authorities and Faculty of the Program**

**Art. 2.** The doctoral program will be directed and managed by a **Program Director** and an **Academic Committee of the Program**.

**Art. 3. The Director of the Doctoral Program** will be a faculty member other than the Director of the Nucleus of Astronomy and will be responsible for the conduction, management and academic administration of the doctorate, following the policies and regulations of the University. He will also chair the Program Committee. The Program Director must be a faculty member with a doctoral degree and who complies with the productivity guidelines of the National Accreditation Commission (CNA) for the doctoral faculty in this area of study. The Program Director is appointed by the Academic and Development Vice-rector in consultation with the General Directorate for Research and Doctorates, the Dean of the Faculty of Engineering and Science and the Director of the Astronomy Nucleus.

**Art. 4. The Program Director** will have the following functions:

- a) Ensure the development, monitoring and updating of the doctoral program and plan of studies, as well as its prompt accreditation in the corresponding instances.
- b) Represent the doctoral program inside and outside the University.
- c) Coordinate the admission process to the doctoral program.
- d) Inform the Doctoral Council about the candidates selected for ratification by the Board.
- e) Make formal requests to the Doctoral Council regarding exemption from requirements for candidates for the program.
- f) Assign, for each doctoral student, an advisor and possibly a thesis co-advisor, in consultation with the Program Committee and the Dean of the Faculty, considering the opinion of the doctoral student.
- g) Plan and coordinate the defense of Thesis Projects.
- h) Convene the Thesis Defense Commission according to the suggestions made by the advisor and coordinate their work, including the public defense of the doctoral thesis.

i) Inform the doctoral candidate immediately in writing, and with a copy to the supervisor, regarding the decision of the Commission to allow or deny the candidate the possibility of defending the doctoral thesis, as well as suggestions for modifications delivered by the members of the Commission.

**Art. 5.** The **Academic Committee of the Program** will be composed of the Program Director, the Director of the Nucleus of Astronomy and two faculty members (four faculty in total). The members of the Academic Committee will be Associate or Full professors, or Assistant professors whose productivity is at least 1.5 times greater than that required by the CNA to be part of the faculty. The composition of the Program Committee should also consider the need to cover the 3 research areas of the doctoral program: Astrophysics of Planetary Systems, Stellar and Galactic Astrophysics, and Extragalactic Astrophysics. The members of the Program Committee will be appointed by the Dean on the recommendation of the Program Director and the Director of the Astronomy Nucleus.

**Art. 6.** The **Academic Committee of the Program** will have the following responsibilities:

- a) Evaluate the applicants to the program and recommend their admission or rejection.
- b) Advise the Director on the recognition of courses passed by the applicants in other institutions.
- c) Propose and approve curricula and academic activities of the students.
- d) Ensure compliance with the requirements of the Program by students.
- e) Resolve requests for suspension or cancellation of studies, reincorporations and elimination of students who do not meet the minimum requirements of permanence in the Program.
- f) Propose the faculty members that will teach different courses of the Program, as well as their content.
- g) Analyze and propose to the Program Director solutions to exceptional academic situations faced by the applicants or students that are not considered in the regulations of the program.

**Art. 7.** The **Faculty of the program** is composed of all Regular Faculty (full-time) of the Faculty of Engineering and Sciences with a doctorate degree that complies with the guidelines and criteria of productivity of the National Commission of Accreditation and develop research in any of the research areas of the program. In the cases that the Academic Committee deems appropriate, professors with part-time and half-time appointments could also be part of the Faculty of the program if they comply with CNA's productivity

guidelines and develop research in the research areas defined in the program. Only the Faculty of the program are authorized to direct theses of doctoral students.

**Art. 8.** The **Collaborators of the Faculty** of the program may participate as do the Faculty with the doctor degree designated for that purpose by the Academic Committee. The collaborators of the faculty will be able to do teaching, participate in evaluation committees of the qualifying exam and thesis defense. They can be co-advisors of a thesis projects, although they cannot be the main advisor.

**Art. 9.** The main responsibility of the Faculty of the program will be to carry out teaching and research activities.

### **Title III. Of the Admission Process and its Requirements**

**Art. 10.** The **Admission Process** will be in charge of the Academic Committee of the Program.

**Art. 11.** The formal **requirements** for admission are: a bachelor or masters degree in astronomy or related sciences (physics, planetary sciences, etc.) and academic competence of the applicant, which will be evaluated based on the following:

- 1) Cover letter (in English), explaining the motivation for entering the doctorate and research interests.
- 2) Curriculum vitae.
- 3) Certificate of grades from the undergraduate institution (and postgraduate, if any). Original certificates or legalized copies will be required in the registration process.
- 4) Certificate of degree or a letter from the university specifying when the degree will be granted. Original certificates or legalized copies will be required in the registration process, as well as the corresponding procedure defined by the University in case of studies abroad.
- 5) A minimum of two and a maximum of three letters of recommendation sent directly to the Academic Committee.

**Art. 12.** The **preselected applicants** will be called to interview with members of the Academic Committee of the program, which may be done in person or remotely.

**Art 13.** The **criteria and the weights** used to evaluate the background of the applicants will be the following:

- Previous training, rankings, grades and proficiency in English language (40%)
- Research experience based on the CV (20%)
- Motivation and potential to become a successful doctoral student based on the letter of intent and interview (20%)

- The potential of the candidate to obtain the degree according to the strengths and weaknesses mentioned in the letters of recommendation (20%)

The aforementioned weights will serve as guidelines during the admission process, based on which the Academic Committee will generate a ranking of the applicants from which the available vacancies will be filled. However, beyond these percentage weights, each application will be evaluated and discussed individually. On the other hand, the Academic Committee must take into account the research interests declared by the candidates and the balance of research areas of the enrolled students, taking care that no member of the faculty is overburdened with their responsibilities as thesis advisor.

The level of English will be considered in the admission process, but it will not be an exclusive requirement. Exceptional candidates with deficiencies in their level of English (spoken and/or written) may be admitted, but must take courses to get to a satisfactory level (measured in terms of their oral presentations and written work in the courses).

**Art. 14.** When the applicant is informed, he / she must formalize his / her enrollment in the Subdirectorate of Registration of the Universidad Diego Portales.

#### **Title IV. Of the Program of Studies**

**Art. 15.** The **Program of Studies** lasts 4 years (8 semesters) and consists of an initial academic period taking formal courses, a qualifying exam based on a thesis project, a final thesis development period and a thesis defense. The initial academic period lasts 3 semesters and contains general courses, specialized courses, colloquiums, and research projects. The final period lasts 5 semesters and it ends in the thesis defense in the eighth semester.

**Art. 16.** The doctorate has a very strong emphasis on research and students are expected to identify their area of research and their **thesis advisor** during the first two semesters of **the initial period**. If the thesis advisor is not identified from the beginning of the program, the Program Director will assign a temporary advisor to the student, in conversation with the doctoral student and the members of the Academic Committee. The temporary advisor will help the student to select the elective courses and will be his/her contact with the program until the final thesis advisor is assigned.

During the first 3 semesters, the student must accumulate a total of 90 credits based on the courses, seminars, and research projects, and prepare the Thesis Project corresponding to the qualifying exam. Part of the credits may be obtained during internships abroad.

**Art. 17.** To be able to take the **Qualifying Exam**, the student must have accumulated 90 credits of the initial academic period. Under normal conditions (e.g., for students without having to validate credits obtained in other institutions), the qualifying exam will be carried out after completing the third semester of the doctoral program and will consist of the

defense of the thesis project before a Thesis Committee. Once the qualifying exam is approved, the student will enter the final thesis development period as a "doctor candidate".

**Art. 18.** The **Thesis Committee** will be made up of 2 faculty members and an external member expert in the area of research. One of the members of the Thesis Committee will be the thesis advisor, who will select the other two members, in conversations with the Program Director and the student him/herself.

**Art. 19.** The **Thesis Project** will be a written work in English and must include the following elements:

- a) Definition of the problem, hypothesis or questions to solve.
- b) Critical review of the specialized literature, theoretical framework and state of the art in the area of study.
- c) Research methodology.
- d) Schedule of activities, with special emphasis on important milestones such as obtaining data and publishing results.

**Art. 20.** The **evaluation of the thesis project** will consist of the analysis of the written project and of a subsequent oral defense by the student. After the oral defense, also in English, the thesis committee will decide by simple majority if the exam is approved or rejected.

**Art. 21.** In case of failing, the student will have a second chance to take it. The student will have the possibility to modify the project and defend it again within a period of 6 months.

**Art. 22.** The criteria for passing the qualifying exam are:

- a) The scientific value of the thesis project for the research area.
- b) The viability of the project within the established deadlines.
- c) The ability of the student to carry out the project, which must be evidenced by the rigor of the written project and the level of the oral defense.
- d) Knowledge of the theoretical framework of the project (based on the written document and the answers to the questions formulated by the thesis committee during the oral defense).

**Art. 23.** The **final period** lasts for 5 semesters and end in the thesis defense in the eighth semester of the doctorate. The final period may be extended up to one year if circumstances require it, and in exceptional cases a second extension of 1 extra year may be requested from the Program Director, who will consult with the Program Committee and the General Directorate for Research and Doctorates. If this last extension is rejected, the doctoral student may appeal to the Doctoral Council.

## **Title V. The Thesis and the Approval Process**

**Art. 23.** The **Doctoral Thesis** must be an original research work that contributes to the development of the discipline, whose content must be equivalent to 2 articles as a first author published in specialized journals in the *Web Of Science (WOS)* platform. The doctoral thesis must demonstrate the doctorate abilities to carry out original and independent research and generate new knowledge in the field of astrophysics.

**Art. 24.** In exceptional and well-justified cases (e.g., extensive and high-impact studies), the work will be considered equivalent to a single WOS paper by the first author.

**Art. 25.** The **elements of the thesis work** should be clearly related to each other, and should consider an initial summary, an introduction to the theoretical framework and the whole thesis work and a section of general conclusions. The thesis work should not exceed **100,000 words**, except that the Program Director, on the recommendation of the thesis advisor approve an exception in this regard.

**Art. 26.** The thesis will be evaluated by a **Thesis Defense Committee** that will consist of 5 faculty members (including the thesis advisor), all of them with the degree of doctor and experts in the subject of the doctoral thesis or in part of it. At least two of them must be external to the UDP and to the working groups of the doctoral student.

**Art. 27.** The **composition of the Thesis Defense Committee** must be approved by the Academic Committee of the Program. The Thesis Defense Committee will be constituted within 3 months of the approval of the thesis project and it is expected that it will meet periodically (at least once a year) with the student to evaluate the progress of the doctoral thesis.

**Art. 28.** During the eighth semester, the doctoral student will send the doctoral thesis (written document) to the Defense Committee. The Defense Committee will analyze the thesis and within a period of 6 weeks will decide by simple majority if the doctoral candidate is in a position to submit his thesis for the oral defense. The decision shall be informed to the doctoral student in writing by the Program Director.

**Art. 29.** The **defense of the thesis work** will be an oral presentation in English by the doctoral student, followed by a questioning session by the members of the Thesis Defense Committee. The questions will be based on the written document and the oral presentation. After the question session, the committee will meet privately to deliberate. Each member of the Defense Committee will assign a grade (from 1 to 7) for the written thesis (weighted at 50% of the final thesis grade) and another grade (also from 1 to 7) for the oral defense (the other 50 %).

**Art. 30.** The evaluation of the thesis work consists on verifying that it meets the criteria established in Arts. 23, 24, and 25 of the present regulation.

**Art. 31.** In order for the thesis to be **approved**, the following requirements must be met simultaneously:

a) At least 3 members of the Thesis Defense Committee must assign a grade equal to or greater than 4.0 to the written thesis and to the oral defense.

b) The average of all the grades of the members of the Thesis Defense Committee must be equal to or greater than 4.0, both for the written thesis and for the defense.

**Art. 32.** In case of unanimous approval by the committee, the thesis may have the special qualification "With distinction", as long as the final grade is equal to or greater than 6.0.

**Art. 33.** In case of failing to pass, the candidate will have a second opportunity to defend the thesis within 6 months after the first defense.

### **Title VI. Of The Thesis Advisor.**

**Art. 34.** The main Thesis Advisor must be a professor of the doctorate faculty, and there may also be a co-director, who will be an academic or researcher with a doctorate degree from Chile or abroad.

**Art. 35.** The thesis advisor will have the following tasks:

a) To guide the doctoral student in the selection of a doctoral thesis topic, in the preparation of the thesis project, and the development of the research work, both from the methodological and disciplinary point of view.

b) Critically evaluate the progress of the doctoral student, making him/her see his/her success and intuitions that promise good performance, as well as his/her omissions, deviations and errors, suggesting possible ways of improvement.

c) Ensure that the doctoral student's work is carried out in accordance with the ethical rules that govern the academic practices of the Universidad Diego Portales and the generally accepted principles of academic ethics.

d) Establish with the doctoral student a **general thesis plan** within 4 weeks of its designation, and a **semester plan** with clear and verifiable milestones, which will be checked by the Program Academic Committee.

**Art. 36.** At any time during the program, the doctoral student may request the replacement of the thesis advisor. The request will be resolved by the Program Director in consultation with the Academic Committee.

**Art. 37.** The thesis advisor must always be replaced when he/she ceases to work as an academic of the Universidad Diego Portales, notwithstanding that he/she may continue to act as co-director.

**Art. 38.** The replacement of the thesis advisor does not exempt the student from compliance with the requirements and deadlines provided, except when the situation is not in any way attributable to the doctoral student.

### **Title VII. Graduation requirements and final grade**

**Art. 39.** The **graduation requirements** are as follows:

a) To have approved (or validated) all the elements of the plan of studies.



- b) To have passed the qualifying exam.
- c) Approve the two parts of the thesis defense: written work and oral presentation.
- d) Have at least one first author paper published or accepted in a specialized international journal.

**Art. 40.** The **final grade** of the doctorate degree will only consider the thesis and will correspond to 50% of the written thesis grade and 50% of the oral defense grade assigned by the members of the Thesis Defense Committee.

### **Title VIII. Of the Relationship with the Masters in Astrophysics**

**Art. 41.** Students will be eligible for the intermediate certification of a **Masters in Astrophysics**, once the initial period of the program has ended.

**Art. 42.** To receive the Masters degree, the student must meet the following requirements:

1. Approve/pass all the curricular activities of the initial period, with the exception of the qualifying exam. That is, having accumulated a total of 90 credits based on courses, seminars, and research projects.
2. Present the results of their research projects undertaken during the first 3 semesters, in a written report that will have the format of Masters Thesis. This report must be approved or rejected by a simple majority of the Academic Committee of the Program.

### **Title IX. Of the Validation of Credits**

**Art. 43.** Students entering the doctorate program may apply for recognition/validation of courses (and academic activities in the initial period) made previously in other similar programs, up to a maximum of 60 credits. The qualifying exam cannot be validated.

**Art. 44.** The validation must be requested from the Academic Committee during the admission period and/or within the first six months of the incorporation of the student into the Program. The Committee will be guided by the Regulations of Validations of the Universidad Diego Portales and its decision will be unappealable.

### **Title X. Of the Academic Elimination**

**Art. 45.** Will incur in **grounds for academic removal** students who fail two courses or mandatory activities, whether these are two different or the same activity twice. This includes the qualifying exam and all other activities included in the plan of studies.

**Art. 46.** Students who have incurred in academic removal may appeal, in the first instance, to the Academic Committee of the Program following the procedure described in the Postgraduate Student Regulations of the University. If the appeal is rejected, the student will have a second and last instance of appeal the to the Doctoral Council of the Universidad Diego Portales.

### **Title XI. Various**

**Art. 47.** The competent authorities of the Universidad Diego Portales and its Faculty of Engineering and Sciences will promote, at the proposal of the Academic Committee, establishing collaboration agreements with universities or foreign research centers of recognized prestige in the area of Astrophysics, being able to consider the possibility of double graduation or joint graduation under conditions that ensure the rigor of the academic process and the due representation of the Universidad Diego Portales in the granting of the degree. The double graduation or joint graduation will always require a specific agreement regarding each particular doctorate.

**Art. 48.** The suspension, cancellation and abandonment of studies are governed by the provisions of the General Regulations for Postgraduate Studies of the Universidad Diego Portales. The requests required in said regulations should be addressed to the Academic Committee.

**Art. 49.** Both the ethics violations that could affect the academic evaluations as well as the violations of the general rules of the university will be treated and sanctioned according to the Regulations of the Universidad Diego Portales.

**Art. 50.** Modifications to these Regulations will be proposed by the Academic Committee of the Doctorate in Astrophysics at the initiative of the Director of the Program, for approval by the Academic and Development Vice-rectory, through the corresponding resolution.

**Art. 51.** Any matter not contemplated in these Regulations will be decided by the Academic Committee of the Program, in consultation with the General Directorate of Research and Doctorates and the Academic and Development Vice-rectory.