Ph.D. Course in Drugs, Biomolecules and Health Products

Corso di Dottorato di Ricerca in

Scienze del Farmaco, delle Biomolecole e dei Prodotti per la Salute

Ph.D. Course in

Drugs, Biomolecules and Health Products

XXXIII Cycle

(Nov 1st 2017 - Oct 31st 2020)

Carta del Dottorato

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1. Course description

The "Corso di Dottorato di Ricerca" in "Scienze del Farmaco, delle Biomolecole e dei Prodotti per la Salute" (Ph.D. Course in Drugs, Biomolecules and Health Products) is organized by the Food and Drug Department at the University of Parma. It consists of a research project and complementary activities; it is concluded with the preparation and defense of a PhD thesis.

The Course program takes three years, during which changes of scientific environment are strongly encouraged. It is aimed at the preparation of "Dottori di Ricerca" having scientific knowledge and research experience in the design, discovery, development, production and control of drugs and health products, as well as in the investigation of mechanisms of action for drugs and biomolecules. The Board of Teachers provides a Supervisor and offers courses and seminars in different scientific areas, with particular focus on medicinal chemistry, pharmaceutical chemistry, pharmacology and biochemistry. Contributions from different scientific areas, relevant for the world of drugs, biomolecules and health products, are also included, shaping an inter-disciplinary Course with strong focus on the research objective.

The research project of Ph.D. students has to be consistent with one of the four major areas (curricula) covered by the Course: i. Design and synthesis of bioactive compounds; ii. Biopharmaceutics and pharmacokinetics; iii. Experimental pharmacology and toxicology; iv. Biochemistry, biophysics and molecular biology.

Ph.D. work must be considered as an exclusive full-time employment. [Art.12 c.1 DM 45/2013].

This document contains information about the organization of the Course and represents an agreement among the parts involved; it assumes that all the parts are aware of Italian laws and internal rules about the Dottorato di ricerca (Regolamento dei corsi per il conseguimento dei dottorati di ricerca (in applic. del DM 45/2013 per i corsi istituiti dal XXIX) - www.unipr.it).

2. Definitions, rights and responsibilities

2.1. Studente di dottorato, Dottorando or Ph.D. Student

- Ph.D. students have access to education, supervision and training. This includes access to Supervisor’s lab and research facilities at the Food and Drug Department or other Departments where their Supervisor works.

- Ph.D. students have the right to receive evaluation of their progress and to be informed of the criteria upon which the evaluation is based. Students should also be provided with opportunities to discuss such evaluations with their Supervisors. Reasonable warning should be provided in advance of dismissal based on failure to make satisfactory academic progress.

- Ph.D. students have the right that their contribution to results of research activity is acknowledged. The PhD student, the Supervisor and other relevant parties involved in the research activity have to discuss extensively regarding the expectations for student contributions and the nature of the acknowledgement.

- Ph.D. students have the responsibility to be informed about the requirements of their program and to dedicate appropriate effort and time to meeting these requirements; in particular, they have the responsibility to fulfill their research and complementary commitments and duties.

- Ph.D. students have the responsibility to understand and fulfill their role in developing and maintaining a professional relationship with their Supervisor. This includes the responsibility for communicating regularly with him/her, maintaining a mutually agreed schedule of meetings, and informing supervisor of
such things as: the current status of their work; any expected deviations from the agreed program of studies; any unanticipated absences.

- Ph.D. students have the responsibility for the appropriate use of resources and equipment.
- Ph.D. students have to uphold the ethical responsibilities of their profession and discipline.
- Ph.D. students have the responsibility to recognize the contributions to their research results made by their supervisor and other colleagues. This includes to maintain confidentiality until results have been published, and to agree with the Supervisor any kind of disclosure. The results of research work made under the Ph.D. program are owned by University of Parma, which acknowledges the Ph.D. student for his/her part of the intellectual property as agreed by the Ph.D. student and the Supervisor.
- The Ph.D. student has the responsibility to collect documents attesting his/her participation to complementary activities, and to report to the Board of Teachers.
- For five years after the end of the Course, the Dottore di Ricerca agrees to fill a questionnaire about his/her professional career.

2.2. Supervisor (Relatore di tesi) and External Advisor (Tutore)

At the beginning of the Course, a Supervisor (Relatore di tesi) is assigned to each Ph.D. student by the Board of Teachers. The Supervisor is a member of the Board of Teachers. If significant activity is performed by the Ph.D. Student out of the Supervisor’s Department, an External Advisor (Tutore) can support the Supervisor.

The Supervisor has the responsibility to agree with the Ph.D. student a research plan, to follow his/her progress and to agree with him the schedule of his/her complementary activities.

The Supervisor has the responsibility to guarantee the conditions that allow to perform research work regularly. This includes access to equipment, facilities, material and documentation. This responsibility is shared with the External Advisor for the research activity performed by the Ph.D. student out of the Supervisor's Department.

The Supervisor discusses with the Board of Teachers about the progress of research work and complementary activities, in order to admit the Ph.D. student to the following year of the Course and to the final examination.

The Supervisor proposes to the Board of Teachers two external evaluators of the thesis at the end of the course for the Ph.D. student.

When the fruitful collaboration between a Ph.D. student and his/her supervisor is compromised for any reason, each of them can ask for a re-assignment to the Coordinator, who tries to settle the dispute. If, for any reason, the collaboration cannot be restored, the Coordinator summons the Board of Teachers and asks the Ph.D student and the Supervisor to present written explanations of their reasons. The Board of teachers evaluates the documents presented by the two parts and can re-assign the Ph.D. student to another Supervisor or take any different decision. The decision taken by the Board of Teachers is considered to be final.

2.3. Board of Teachers (Collegio dei Docenti)

The Board of Teachers takes care of:
- assigning a Supervisor to each PhD student;
- stating the requirements of research work and complementary activity;
- approving, at the end of every academic year, the Ph.D. student's research work and complementary activity, admitting him to the next year in case of positive response;
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- approving, at the end of the last academic year, the Ph.D. student’s research work and complementary activity, admitting him to the final evaluation in case of positive response;
- assigning thesis evaluators and reviewers for the additional title of Doctor Europaeus;
- proposing the Commission for final evaluation to the Magnifico Rettore.

The members of Board of Teachers must participate to formative and complementary activities, teaching, dedicated courses and seminars. They must produce relevant research results in the scientific fields object of the Ph.D. Course.

The list of Board of Teachers is updated every year and is published on the Course website.

2.4. Coordinator (Coordinatore del Dottorato di Ricerca)

The Coordinator of the Course:
- updates the composition of the Board of Teachers and summons its meetings;
- fills the form to prepare the call for new Ph.D. students;
- organizes complementary activities on general skills, scientific reporting and foreign language;
- authorizes secondment of Ph.D. students in foreign countries; for periods higher than six months, an opinion by the Board of Teachers is required;
- authorizes Ph.D. students to teaching activity;
- authorizes Ph.D. candidate to deposit his/her thesis
- takes relationships with Institutes and Companies to favor Ph.D. activity and employment.

For temporary vacation, these roles are assigned to a vice-Coordinator.

2.5. Director of the Department (Direttore di Dipartimento)

The Director of the department guarantees that the conditions of learning, teaching and research that are appropriate and reasonable for their discipline. This includes financial support for research work, participation in complementary activity and travelling, provided that the relative items of expenditure are funded.

It is responsibility of the Director to inform the Ph.D. student about lab safety rules.

3. Requirements of the Course

3.1. Granting

The number of Ph.D. students admitted each year, and of Grants available, is published in the call for Ph.D. positions. For regulation of granting by Italian Law, see Art. 9 DM 45/2013.

Le borse di studio hanno durata annuale e sono rinnovate a condizione che il dottorando abbia completato il programma delle attività previste per l’anno precedente (...).

L’importo della borsa di studio (...) è incrementato nella misura massima del 50 per cento per l’eventuale soggiorno all’estero per attività di ricerca, per un periodo complessivamente non superiore a 18 mesi, previa autorizzazione del Consiglio di Amministrazione del periodo di permanenza all’estero e del riconoscimento della relativa maggiorazione della borsa, su proposta del Collegio dei docenti.

A decorrere dal secondo anno a ciascun dottorando è assicurato, in aggiunta alla borsa e nell’ambito delle risorse finanziarie esistenti nel bilancio dei soggetti accreditati a legislazione vigente, un budget per l’attività di ricerca in Italia e all’estero adeguato rispetto alla tipologia di corso e comunque di importo non inferiore al 10% dell’importo della borsa medesima.
3.2. Course organization

The Course takes three years. It requires accomplishment of a research work and complementary activities. These include courses and seminars, both in disciplinary and multi-disciplinary areas related to the science of drugs, biomolecules and health products, and development of general skills in informatics, foreign languages, knowledge of EU research system, technology transfer and intellectual property.

The Ph.D. student agrees with the supervisor a research plan and a schedule of complementary activities, fulfilling the requirements stated by the Board of Teachers.

Under specific agreements between University of Parma and a partner University, it is possible to follow a joint Ph.D. Program.

3.3. Research work and research plan

At the beginning of the Course, Ph.D. students present to the Board of Teachers a written research plan, approved by their supervisors.

The research plan will include:
- a title;
- a brief description of the state of the art;
- the specific objectives and methods of the project;
- expected results, phases and milestones.

The Ph.D. student presents his/her research plan to other students and to the members of the Board of Teachers, discussing its strength and weaknesses in a dedicated seminar.

The Ph.D. student continuously interact with his/her supervisor to check research progress, to analyze results and to discuss possible modifications of the plan.

At the end of each academic year, Ph.D. students present to the Board of Teachers a written report about research progress and possible plan modifications. Admittance to the next year of the Course depends on a positive evaluation of this report.

At least a draft for a publication or patent application is expected to be presented to the supervisor within the end of the second year.

3.4. Complementary activities

Every year the Ph.D. student must present at least two seminars in English to other Ph.D. students and to the Board of Teachers, one regarding the research plan or research progress and the second describing a scientific issue related to his/her research activity or field of interest.

The mandatory seminars will follow this approximate scheduling:
- Research plan (beginning of 1st year): December-January
- Scientific topic: June-September
- Research progress: January-February

Detailed seminar scheduling must be proposed by the Ph.D. student to the Coordinator and the Didactic Secretary of the Food and Drug Department, who approve the plan and invite teachers and other students to attend the seminars.
All Ph.D. students should attend seminars presented by other students and participate to the discussion. They can attend courses and seminars offered by the University, including those specifically addressed to Ph.D. students by the members of the Teaching Board or by invited teachers.

Participation to international schools and congresses is strongly encouraged. Participation to ULLA Summer school is highly recommended.

Ph.D. students must ask for authorization from the Board of Teachers to perform teaching or tutoring activity. This can consist of:
- complementary teaching in institutional courses, within 40 hours per year;
- tutoring of students for their graduation thesis.
These activities do not imply any obligation for the University.

All complementary activities concur to the acquisition of the credits (ECTS) necessary to complete the Course. One ECTS point can be acquired by 5 hours of course, lessons and seminars, or by participation to 1 day of school.

Considering that one ECTS also corresponds to 25 hours of research work, the following table presents a standard distribution of the research work and complementary activities required for the Course.

<table>
<thead>
<tr>
<th>Activity</th>
<th>1st year</th>
<th>2nd year</th>
<th>3rd year</th>
</tr>
</thead>
<tbody>
<tr>
<td>University courses or seminars</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>National or international schools</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Research work</td>
<td>54</td>
<td>52</td>
<td>53</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>60</strong></td>
<td><strong>60</strong></td>
<td><strong>60</strong></td>
</tr>
</tbody>
</table>

Significant deviations from this distribution, agreed by the Ph.D. student and Supervisor, have to be approved by the Board of Teachers.

A secondment in an distinguished external institution, possibly in a foreign Country, for a period of time of 3-18 months, is strongly encouraged. Ph.D. student's mobility can be related to ULLA mobility program, Erasmus+ mobility program or other programs organized by the University. Secondments in foreign Countries have to be approved by the Coordinator and, for periods longer than 6 months, by the Board of Teachers.

### 3.5. Final commitments

At the end of the third year, the Ph.D. student presents to the Board of Teachers a report describing:
- the research work performed and the main results achieved;
- the complementary activities performed and attended;
- a list of publications, congress reports and acknowledgments.

The Ph.D. student will produce a written thesis with the results of research work.
3.6. Course evaluation

At the end of the Course, Ph.D. students have to compile an anonymous evaluation form. After the end, another form with questions about professional career will be sent to the "Dottori di Ricerca" for 5 years after their title achievement.

3.7. Acquisition of the title

On the basis of the report presented by the Ph.D. student, and of the Supervisor's advice, the Board of Teachers admits the Ph.D. Student to the final evaluation.

The thesis has also to be evaluated by two external evaluators, who express a written judgment. The evaluators can accept the thesis, allowing its presentation for the final evaluation or delay it for no more than six months, asking for integrations or amendments. In the last case, the thesis is forwarded to final examination with an additional judgment of the evaluators about integrations and amendments.

Final evaluation is public and made by a Commission appointed following University rules. At the end of the final evaluation, the thesis can be approved or rejected. (See Art. 8 c. 6 DM 45/2013).

Under application by the Ph.D. candidate and favorable opinion by the Board of Teachers, University of Parma can emit the Certificate of “Doctor Europaeus”, as defined by the European University Association, when:

1) Ph.D. thesis reports results achieved during a secondment of at least three months in a foreign EU Country;
2) the Ph.D. student presents two positive judgments by two Professors from universities in foreign EU Countries;
3) the Commission for the final evaluation includes at least one member from a foreign EU Country;
4) during the final evaluation, thesis is discussed in Italian and in another language of a foreign EU Country.
4. Agreement


The Ph.D. student,

email: 

Date .................................... Sign here: ..........................................................

The Supervisor,

Prof. 

Date .................................... Sign here: ..........................................................

The External Advisor

Date .................................... Sign here: ..........................................................

The Coordinator,

Prof. Marco Mor

Date .................................... Sign here: ..........................................................

The Director of the Food and Drug Department,

Prof. Gabriele Costantino

Date .................................... Sign here: ..........................................................