Regulations for the PhD programme at LENS

PREAMBLE

The present regulations complete the *Decreto rettorale, 4 luglio 2013, n. 670 – prot. n. 47910* for the PhD school in Atomic and Molecular Photonics at LENS.

I. MEANING OF THE PHD PROGRAMME AND TITLE

(1) The Rector of the University of Florence awards the title of Doctor of Philosophy, PhD, to those candidates who have successfully attended the training programme described in the following.

(2) The PhD in Atomic and Molecular Photonics at LENS is awarded for an original contribution to the scientific research in one of the disciplines studied at LENS. The candidate's proficiency is demonstrated with a written work (dissertation) and an oral examination (disputation).

II. APPLICATION TO THE PHD PROGRAMME

(1) The application procedure follows the regulations of the University of Florence, which are published yearly on the University's webpage.

III. DURATION, SUPERVISION, AND TOPIC

(1) The PhD programme starts on November 1st each year and has a duration of 3 years.

(2) The supervisor for each candidate is assigned by the LENS teaching staff. The supervisor commits himself or herself to the responsibilities involved with this position in front of the candidate and in front of the LENS teaching staff for the duration of three years.

(3) The topic of the dissertation is chosen freely by the candidate in consultation with the supervisor.

(4) At the end of each year, the candidate shall present a short report summarizing the research activity, participation in conferences, published papers, classes taken, and other training and dissemination activities. The admission to the following year of the PhD programme is conditional on the positive evaluation of the report by the teaching staff.

(5) In the event of serious and unforeseen circumstances, a student may request an extension of 1–12 months from the teaching staff. The request must be submitted in writing, co-signed by the student's supervisor, and include a clear explanation of the circumstances justifying the requested extension.

IV. STUDY PLAN

(1) By December 31st of the first year, the candidate in agreement with their supervisor shall present a study plan for the coming three years to the coordinator of the PhD programme. The study plan has to be approved by the coordinator of the PhD programme.

(2) Any amendment of the study plan must be approved by the coordinator of the PhD programme.

(3) Every candidate is required to accumulate a total of 26 credits (CFU). The courses can be chosen among those organised by the PhD School in Atomic and Molecular Photonics at LENS and those organised by other PhD schools of the University of Florence. Details about mandatory courses change from year to year and are available on the LENS webpage.

(4) At least 19 CFUs must be obtained for specialized skills. At least 6 CFUs must be obtained for *soft and complementary skills*.

V. STAY ABROAD

(1) Every student is required to do at least 90 days of research activity abroad. All details of this activity will be decided together with the supervisor and must be approved by the coordinator of the PhD programme. It is recommended to plan such activity for the summer and autumn of the second year, to minimise the overlap with the didactic program.

(2) If the student receives a stipend from LENS, this is increased by 50% during the stay abroad.

(3) If the stay abroad exceeds three months, the student can apply for the title of *Doctor Europaeus*.

VI. DISSERTATION

(1) The dissertation must demonstrate the original scientific research carried out by the candidate. The dissertation must be written in English.

(2) If the research described in the dissertation is fruit of collaboration with other researchers, the contribution by the candidate must be clearly stated. The research work presented in the dissertation cannot be part of a previous dissertation.

(3) The dissertation must be submitted by the last day of the third year of the PhD programme, which according to the academic calendar is usually October 31st. Variations on this date are decided each year by the Rector of the University of Florence and will be published together with further details on the submission format on the webpage: `http://phd.lens.unifi.it` or emailed directly to the candidates.

VII. EVALUATION OF THE DISSERTATION

(1) The candidate, together with the supervisor, shall propose two external reviewers for the dissertation by the end of the second year. After approval by the teaching staff, the candidate is encouraged to contact the reviewers as soon as possible. It is advisable for the candidate to keep the reviewers up to date with his/her research work and to share with them an early version of the dissertation.

(2) It is the reviewer's task to evaluate the quality and relevance of the research and the appropriateness of the dissertation. They will either approve the dissertation in the submitted form and recommend the admission to the disputation or require improvements that will be reviewed anew and recommend an extension of the evaluation procedure of up to six months.

(3) The reviewers are asked to send their reports directly to the coordinator of the PhD programme by the 30^{th} day after the deadline for the final submission of the dissertation (see Section VI). It is the candidate's responsibility to ensure that the reviews are on time. The coordinator of the PhD programme will share the reports (to be treated as confidential) with the teaching staff. If improvements to the dissertation are requested, beside the confidential report, the reviewer will submit a second document with the indications for the candidate of the requested improvements.

(4) The replacement of one or both reviewer must be approved by the coordinator of the PhD programme.

(5) The supervisor shall submit a report evaluating both the dissertation and the research work carried out by the candidate during the three years by the 30^{th} day after the deadline for the final submission of the dissertation (see Section VI).

(6) It is the responsibility of the teaching staff to present the candidate to the disputation. To this purpose, the teaching staff evaluates the dissertation, takes the reports of the external reviewers and of the supervisor into account, and evaluate the success of the candidate in the attended courses.

VIII. THE PHD COMMITTEE

(1) The PhD committee is proposed by the teaching staff and is nominated by the Rector of the University of Florence according to Article 23 of the *Decreto rettorale, 4 luglio 2013, n. 670 – prot. n. 47910.*

IX. DISPUTATION

(1) During the disputation, the candidate is expected to show his/her skills in presenting the results of a scientific research work and to be able to defend the dissertation from criticism. The disputation is held in English and is public. All members of the PhD committee must be present at the disputation.

(2) The disputation begins with a 30-minutes presentation, in which the candidate describes the major results of his/her research work, and their relevance in a broad scientific context. After the presentation, a substantial amount of time (of the order of 30 minutes) is dedicated to the discussion during which the candidate defends the dissertation from criticism moved by the PhD committee and answers their questions. The questions should focus on concrete aspects of the research results and on the methods used to achieve them. Finally, the chairperson of the PhD committee can allow the audience to pose questions. The discussion cannot last more than 60 minutes.

X. DECISION ON THE DISPUTATION AND FINAL EVALUATION

(1) After the end of the disputation, the PhD committee retreats and evaluates the quality of the disputation.

(2) If the disputation is sustained successfully, the committee formulates a final judgement taking into account the reviewers' reports, the supervisor's report, and the disputation. The three possible grades are good, very good, excellent.

XI. SUMMA CUM LAUDE

In case the supervisor finds that the research work of the candidate is of exceptionally high quality, he/she can propose to the external reviewers that the dissertation is awarded the *Summa cum laude* distinction. If both reviewers support explicitly this recommendation, the proposal shall be submitted to the teaching staff. The teaching staff may nominate a third external reviewer. In case of unanimous approval by the teaching staff, the PhD committee can award the *Summa com laude* distinction with unanimous decision.