#### SPECIFIC TRAINING ACTIVITIES OF THE PhD PROGRAM IN CHEMISTRY

#### 1. Attendance to research seminars and conferences (recommended 20 hours)

Attendance to one research seminar or conference related to the topic of the program per semester is recommended for full-time students. The number of hours is indicative. No adaptations are required for part-time students, except for the extension in time of the recommended set of such activities.

The activity can be carried out locally or during the student's stay in other national and foreign centers. Justification will be made by means of a copy of the Minutes of the course or proof of attendance signed by the person in charge of the course or the organization of conferences and/or seminars.

## 2. Participation in training and improvement courses in research techniques (recommended 25 hours).

The student may take specialized training courses in the specific research techniques and methods to be used during the completion of the doctoral thesis. Participation in at least one such course during the doctoral training period is recommended. The number of hours is indicative. Accommodations are not required for part-time students.

The courses may be taken locally or during the student's stays in other national and foreign centers.

The justification will be made by means of a copy of the Minutes of the course or proof of attendance signed by the person in charge of the course.

### 3. Participation in training courses in transversal competencies (recommended 25 hours).

Participation in learning and improvement courses in bibliography management, databases, computer tools, entrepreneurship techniques, etc., as well as the improvement of previous knowledge of major European languages and their certification according to the Common European Framework of Reference for Languages (CEFR) is recommended. The number of hours is indicative. No adaptations are required for part-time students, except for the extension in time of the recommended set of activities of this type.

The justification will be made by means of a copy of the minutes of the course or proof of attendance signed by the person in charge of the course. It will also include those official certificates of language level of the CEFR

### 4. Participation in symposia organized by the PROGRAM for the presentation of previous results (30 hours).

The Academic Committee of the Doctoral Program in collaboration with the Departments involved in it, will organize, on an annual basis, symposia in which the students of the program present their progress in the form of oral communication. No adaptations are required for part-time students, except for the temporal adequacy of this activity. Students must justify their participation in at least one of the symposia during their time in the PROGRAM.

Justification will be carried out through the inclusion, in the activities document, of the summary of the presentation made, as well as the accreditation of the participation by the Coordinator of the PhD program.

### 5. Presentation of communications and participation in scientific congresses (recommended 50 hours).

Participation in at least two national or international scientific conferences in the student's field of research is recommended. The number of hours is indicative. No adaptations are required for part-time students, except for the temporal adequacy of the activity.

The activity will be accredited by including the abstracts of the communications in the activity document and a copy of the proof of their presentation.

#### 6. Preparation of a publication in international journals (100 hours)

The doctoral student must actively participate in the publication process in an international scientific journal of at least one article that includes the results of his research. Participation and learning will be related to the stages of literature review, analysis, and synthesis of the results to be included, writing, contact with editors and evaluators, etc. The activity will be carried out by all students, part-time or full-time. There is no minimum number of publications required to present the thesis, but this and the quality of the publications will be a requirement to be considered when evaluating the thesis. No adaptations are required for part-time students, except for the temporal adequacy of the performance of the activity.

The activity will be accredited by the inclusion in the activities document of the publications in scientific journals in which the student has collaborated, briefly indicating the degree to which the student has been involved, both in obtaining results and in the preparation of the publication, and will include the indications of quality of the journal where the article was published (impact factor and relative position in the JCR area), as well as if they are the result of a stay in an external center.

#### 7. Stays in other national and foreign research centers (150 hours/month of stay).

The activity foresees the displacement of the doctoral student to another national or foreign research center to carry out part of the work of his/her doctoral thesis there. The stays will allow the student to incorporate new techniques and work methodologies and, additionally, will allow him/her to initiate his/her own network of contacts with researchers from other centers and other countries. All these aspects are of special relevance in your training as an independent researcher.

It is recommended that all doctoral students undertake a three-month stay in a prestigious foreign research center complete and broaden both their research training and their knowledge of other educational systems and to perfect a second language. On the other hand, the completion of a stay abroad of this duration is a prerequisite to be eligible for the mention 'International Doctor', which is intended to be promoted in the PROGRAM. The number of hours indicated (150) corresponds to one month of stay. No adaptations are required for part-time students, except for the temporal adaptation of the activity and its possible fragmentation into shorter stays with a minimum duration of one month.

No adaptations are required for part-time students, except for the temporary adaptation of the activity and its possible fragmentation into shorter stays with a minimum duration of one month.

The stay will be accredited in the activities document by including the corresponding proof of the stay, a copy of the publications derived from the stay, as well as any other activity carried out during the stay. Given the need for funding, this activity will not be obligatory.

# 8. Collaboration in regulated teaching at the University of Seville (120 hours are recommended in those cases in which the student's academic and administrative situation allows it).

In those cases in which the student's situation and current regulations allow it, it is recommended that he/she participates in regulated teaching at the University of Seville, under the supervision of a professor, with a dedication of 30-60 h/academic year, or as much as his/her academic and administrative situation allows. This participation will be, preferably, in tasks of supervision of students in practical teaching.

The teaching will be accredited by means of the corresponding certification.