Computer Science GSSI PhD Rules

Gran Sasso Science Institute (GSSI), School of Advanced Studies, Viale F. Crispi, 7 – 67100, L'Aquila, Italy
General GSSI PhD courses regulation available at CS@GSSI web site (`https://cs.gssi.it`)

All dates below refer to the current academic year.

Introduction

These rules present CS@GSSI-specific additions to the general PhD course regulations at the GSSI (see relevant articles at `https://www.gssi.it/images/pdf/Regolamento_corsi_di_dottorato_EN_rev_protoc.pdf`). Further information (concerning, e.g., the Coordinator, the Academic Board, the list of courses, and the list of seminars) is published on the CS@GSSI web site. These rules apply to cohorts enrolled from the academic year 2021/2022 onward.

Advisor and co-advisor (Art. 3.1 and Art. 12.4)

Each student is assigned an *internal tutor* as soon as they join GSSI. Students design a personal study plan by *mid-December*, with the assistance of the Coordinator and their internal tutors, and according to the course offering (as specified below). Advisors and co-advisors are nominated by the Academic Board *at the end of June* and must be chosen among the faculty of GSSI.

Admission to the following years (Art. 8.3, Art. 12, Art. 16, and Art. 17)

Admission to the second year is based on the European Credit Transfer and Accumulation System (ECTS), in Italy also called CFU (*Credito Formativo Universitario*). In order to be admitted to the second year, a student has to be awarded *60 CFUs*. The rules for acquiring CFUs are described below (**First year** and **Thesis proposal**). The rules concerning admission to the third and fourth year, and to the final defence are also specified below (**Second and third year** and **Timeline of the final defence**).

First year

During the first academic year, teaching is organised as follows.

- *Immigration courses* (November and December) are 30-hour courses having an introductory nature, providing basic knowledge, and consisting of lectures targeted at the acquisition of techniques, methods, and skills needed to conduct research in computer science. For each immigration course, passing the corresponding exam awards *5 CFUs*.
- *Core courses* (January, February, and March) are 14-hour courses providing in-depth knowledge on topics of central interest to the PhD program, in order to expose doctoral students to relevant subjects in computer science. For each core course, passing the corresponding exam awards *4 CFUs*.
- *Advanced courses* (April, May, and June) focus on specific research topics that are of interest for the students, and are of shorter duration (from 6 to 10 hours each). For each advanced course, attending the course awards *1 CFU*.

Every student in the first year of the PhD program must pass the exams in *all immigration courses* (15 CFUs total), and in *at least five core courses* of the student's choice (20 CFUs total) and must attend *at least 12 advanced courses or complementary teaching activities*.The examination format will be decided by the lecturers (e.g., preparation of an essay, seminar, take-home assignments, or formal examination).

Thesis proposal

At the end of the first year, each student has to produce a *proposal for a doctoral thesis*, which has to be presented to the Academic Board by mid-September. The Academic Board nominates a thesis committee for each proposal that valuates it in terms of its scientific relevance, novelty, feasibility, and alignment with the GSSI research themes. Once approved by the Academic Board, the thesis proposal awards *13 CFUs*.

Second and third year

Towards the end of the second and third year, each student has to prepare a report of about 10 pages

- describing their overall activities in the current year,
- highlighting the progress of their research,
- providing links to relevant and original results (e.g., papers, tools, webpages, etc.), and carefully describing their own contribution in each of them, and
- providing a research plan for the following year.

The report has to be submitted by mid October to the Academic Board. If the report is approved by the Academic Board, the student is admitted to the following year.

Timeline of the final defence

Towards the end of the fourth year, the final defence will take place according to the following timeline.

- By *end August* of the fourth year, the advisor informs the Coordinator that the student is completing the final dissertation and encloses the thesis abstract and a list of two reviewers, who accepted to evaluate the dissertation.
- By *mid September* of the fourth year, the student presents their work in an internal seminar and submits the preliminary version of the thesis, which the advisor will forward to the two reviewers.
- By *end October* of the fourth year, the advisor receives the reports by the reviewers. In case of positive reports, the Coordinator forms the final examination committee and sets the examination date.
- The examination consists of a presentation of about *40 minutes* given by the student, followed by questions by the examination committee.

Seminars and other scientific activities

Attendance and engagement with the scientific activities of the institution are crucial to strengthen research skills and network building. *Seminars* are of key relevance. First-year students must attend *all* the announced seminars organised by the computer science area at GSSI, unless they have mitigating circumstances (e.g., health issues) that need to be timely communicated to the PhD program Coordinator. Second, third, and fourth year students are expected to engage with any scientific activities organised by the group.

Publications

Students must agree upon a publication strategy (e.g., conferences and journals to target) with their advisor. Students must ask their PhD advisor for *permission to submit papers for publication*. This is fundamental to avoid focusing on venues that do not meet appropriate levels of scientific standards and quality. Moreover, students must indicate their *affiliation to the Institute* in all their research papers, posters, talks and, in general, all the scientific work that they produce during their studies at GSSI.