

Main statutes of the Doctoral School in Science and Engineering (DSSE)

Preamble

These statutes represent the general statutes of the DSSE. The different DS Programmes can develop their own additional statutes, not contradictory to the main DS statutes.

The current statutes complement the University law, the Internal Regulation, and the Study Regulations of the University. These documents can be found on the University webpage:

https://wwwen.uni.lu/university/official_documents

All activities of the doctoral school are further governed by the Singapore declaration on research integrity. The Singapore Statement can be found on the website of the doctoral school:

https://wwwen.uni.lu/fstc/doctoral_school_in_science_and_engineering_dsse/presentation

The principles of the Singapore statement are summarised as:

- *Honesty in all aspects of research*
- *Accountability in the conduct of research*
- *Professional courtesy and fairness in working with others*
- *Good stewardship of research on behalf of others*

Art. 1. Mission and Objectives of the School

- Provide a supportive and challenging environment for the education and training of Doctoral Candidates (DC): an excellent research setting and training in STEM subjects, to foster their development into independent researchers, as well as training in transferable skills to improve the graduates' employability.
- Train Doctoral Candidates to perform cutting-edge research in science and engineering at an internationally recognized level and to integrate graduating DCs into scientific and/or industrial networks.
- Foster the professional development of the DCs, teach them to think independently, to consider problems critically, to perform rigorous analyses, and to embrace the values upon which scientific research is founded.
- Provide an optimal environment for pursuing doctoral studies at an internationally competitive level and, when appropriate, in a broad interdisciplinary context.
- Develop the abilities of those candidates interested in commercially applied research to identify opportunities for technological or industrial advances and to assist them to transfer that knowledge from academia to industry.

- Assist DCs in defining their career goals (e.g. academia, industry, policy development) and to provide training opportunities for learning the skills and attributes that will improve their employability (communication, management, leadership, entrepreneurship, etc.).
- Promote partnerships and collaboration between universities and research institutions in doctoral research training.

Art. 2. Doctoral Programmes

The Doctoral School comprises the following doctoral programmes:

- Doctoral Programme in Civil Engineering
- Doctoral Programme in Computer Science and Computer Engineering
- Doctoral Programme in Computational Sciences
- Doctoral Programme in Mathematics and Applications
- Doctoral Programme in Mechanical/Electro and Communications Engineering
- Doctoral Programme in Physics & Materials Science
- Doctoral Programme in Systems and Molecular Biomedicine

Art. 3.

Abolished

Art. 4. Organisation of the School

The DSSE is a collegiate structure, consisting of:

- Head of Doctoral School
- Deputy Head(s)
- Members' Council (MC)
- Programme Coordinators
- Programme Committees
- Doctoral Candidate Council
- Doctoral Candidates (DC)
- Supervisors
- Ombudsperson(s)
- DS Facilitator
- Programme Administrators

4.1. Head of Doctoral School

The Head of the Doctoral School is proposed by the Dean, based on an election by the MC. The UL Rector appoints the Head of the Doctoral School for 4 years with a possible specification of an alternative duration. Eligible for the mandate of the Doctoral School Head are full professors, associate professors, and assistant professors with a working contract at UL.

Tasks:

- Official representative of the DSSE. Maintains and may establish exterior relations, (e.g. cooperations) and helps in the preparation of collaboration agreements with third parties, together with the programme coordinators concerned.
- Strategic management of the Doctoral School in conjunction with the MC.
- Responsible with the MC for the distribution of the doctoral school budget.
- Initiates courses and events at the DS level.
- Proposes changes to the statutes.
- The Doctoral School Head leads the MC.
- Line Manager of DS Facilitator and Programme Administrators.
- Second official contact point (after the programme coordinator) for the resolution of conflicts.

4.2. Members' Council

The Members' Council consists of the Head of the DSSE and the Programme Coordinators. As needed, up to two additional members can be elected. These members will focus on specific topics that may have to be developed or maintained (e.g. Quality Assurance, Funding & Communication). In addition, the Dean, two DC Representatives, and the DS Facilitator will participate with a consultative role, i.e. they do not have voting rights. The two additional members are elected by the other members of the MC for a term of maximum 5 years. Re-election is possible. Additionally, if relevant, the Luxembourg Institutes (LIs) may have one voting member if none is already in the MC. The MC meets at least once per semester.

The MC elects among its members from the academic staff one or two Deputy Head(s) who can replace the Head of the DS when necessary.

Tasks of the MC:

- Develops and maintains a general research and training strategy for the Doctoral School.
- Assesses the need for and recommends the creation, modification, and/or abolishment of programmes after consultation with programme committees, Departments, the FSTM and the collaborating ICs.
- Recommends, together with the concerned programme committee the restriction or withdrawal of supervision rights in cases of negligence (severe or repetitive) or misconduct to the Rector in accordance with the Internal Regulations of the UL.
- Changes the current DSSE statutes, c.f. Art. 10.
- Decides and plans regular evaluations of the DSSE.

- Develops measures for quality assurance together with the FSTM and the Programme Committees, Departments, and ICs involved, as well as the Doctoral Education Workshop.
- Decides on strategic collaborations with partner institutions, whether for research or for training.
- Elaborate, together with the DS Facilitator, the yearly budget proposal for the DSSE.
- Seeks funding opportunities on the DS level.
- Approves the communication strategy of the DS.

Decisions within the MC will be made by a majority vote. In case of a tie, the Head of the DSSE has a deciding vote. At least 50% of the members (excluding non-voting members) of MC must participate in the voting. Electronic voting will be accepted.

4.3. Programme Coordinator and Programme Committees

The Programme Coordinator is proposed by the Dean, based on an election by the supervisors of the programme. Eligible for the mandate of the Programme Coordinator are full professors, associate professors, and assistant professors with a working contract at UL. The UL Rector appoints the Coordinator as Course Director (Art. 37 N° 1 of the university law). Each programme has a Programme Committee, consisting of the Programme Coordinator and at least one additional elected member. The programmes will develop their own statutes, not contradictory to the main DSSE statutes. The additional member(s) of the Committee are elected for a maximum of 5 years by the Supervisors involved in the programme. Re-election is possible. Regular Programme Committee members may be replaced during these 5 years.

Tasks of the Programme Coordinator, together with the Programme Committee:

- Development of a strategy and statutes for the programme.
- Day to day management of the programme with support of the DS Facilitator and the Programme Administrators.
- Preparation of collaboration agreements with the support of the DS Facilitator and the Programme Administrators.
- Search for and apply for funding opportunities on the Doctoral Programme level in coordination with the DS Facilitator and the Research Facilitators.
- Responsible for the description of the Doctoral Research Programme and its maintenance in close collaboration with the Programme Committee, as well as with the FSTM and the Departments and ICs involved.
- Responsible for the overall management of the programme budget. Recommended delegation of daily budget follow-up to the DS Facilitator. Budget details to be determined at programme level (thresholds for approval of expenditures).
- Initiates courses and events at programme level, decides on the allocation of ECTS points.
- Brings to the attention of the members' council any issues, problems or questions identified by the programmes' supervisors.
- On request by a DC and his/her Supervisor(s), attributes ECTS points for a course/module attended by the DC at another institution, if it falls into the theme of the programme and satisfies the required quality standards.

- Organise calls for stipends/travel grants, bench fees etc.
- Communication with and reporting to funding bodies.
- Ensure compliance to the UL Study Regulations and the rules and regulations governing doctoral education at the UL.
- Ensure compliance to UL, national and international Codes of Practice and guidelines.
- In case of doubt, they can advise on the composition of the jury for the doctoral defence.
- Approves CET compositions.
- Approves Co-tutelle agreements.
- Recommends the admission of DCs to the DS (and the University) and reports to the MC.
- First official contact point for the resolution of conflicts.

4.4. Doctoral Candidate Council and Doctoral Candidate Representative(s)

In each programme, the DCs elect one or two Doctoral Candidate Programme Representative(s) for a term of one year. Re-election is possible.

The Doctoral Candidate Council consists of the Doctoral Candidate Programme Representatives of each programme and additional members elected by all DCs enrolled in the DS. The term of additionally elected members is one year. Re-election is possible. The number of elected members will be specified in the statutes of the Doctoral Candidate Council.

The Doctoral Candidate Representatives develop the statutes of the Doctoral Candidate Council. The statutes have to be approved by the MC.

Tasks of the Doctoral Candidate Council:

- Represent the DCs in the DSSE.
- Elect the Doctoral Candidate Representative(s) in the Members' Council for a term of one year. The members can be re-elected.
- Advise the Members' Council (e.g. via the Doctoral Candidate Representative(s)).
- Organise social activities for DCs.
- The Doctoral Candidate Programme Representatives will advise the Programme Committees in their discipline.

Tasks of the Doctoral Candidate Representative(s) in the MC:

- Represent the DCs in the MC.
- Advise the MC.

4.5. Doctoral Candidates

Doctoral Candidates, besides their research work, participate in the training programmes and are actively involved in the activities and the daily life of the school.

All DCs will in principle, contribute to teaching in the study programmes of the FSTM. In most cases, they will act as assistants in "Travaux dirigés" (TD) and "Travaux Pratiques" (TP) courses.

DCs are expected to develop into independent researchers with a skill set, as defined in the UL Study Regulations. Here it is repeated in English and specified:

A successful Doctoral Candidate

- has a systematic understanding of the scientific subject and masters the competences and methods of research in the fields of the DSSE which means in particular: to formulate hypotheses; to design and carry out experiments or simulations or to develop theories to test hypotheses; to interpret and analyse data and to draw correct conclusions from complex data sets.
- is able to design, perform, and adapt a substantial research task, taking the rules of scientific integrity into account.
- analyses results and conclusions critically, evaluates and develops new and complex ideas.
- communicates within the field of expertise with the scientific community of the specific field and in general.
- promotes technological progress in a knowledge society.
- contributes significantly through original research to the advancement of knowledge by performing substantial research work, that merits international scientific publication.

4.6. Supervisors

In principle, every Supervisor with an ADR from the FSTM, LCSB or SnT is member of the DSSE. Supervisors can be Professors, Associate professors and other researchers of the University of Luxembourg or other Luxembourgish Research Institutes, having the right to supervise DCs at the UL and whose research fits at least one of the programmes. Membership in more than one Doctoral Programme or DS is possible.

Tasks and responsibilities:

- Supervise DCs enrolled in a Doctoral Programme of the Doctoral School.
- Monitor general progress of DCs as and in collaboration with CET members.
- Supervisors define stimulating, realistic, and up-to-date doctoral projects.
- Supervisors ensure a nurturing and challenging environment for the DC.
- Supervisors take time to discuss and advise each DC, conduct personal meetings with the candidate at regular intervals, suggest additional information or skills courses to attend.
- Listen to the DCs, treat them and their ideas respectfully.
- Help them build their own local and international network of collaborators and mentors, suggest conferences.
- Give guidance on writing, read and comment on their manuscript drafts and theses in a timely fashion.
- Provide access to all necessary resources and contacts.
- All supervisors contribute to the activities of the DSSE and their doctoral programmes, adhere to relevant statutes, contribute to the DSSE's functioning, and ensure quality of supervision. In principle, their DCs are part of the DS.
- The supervisors of each programme decide on the programme statutes with its annexes.

4.7. Ombudsperson

The tasks of the Ombudsperson or Ombudsteam include:

- Facilitate the dialogue between conflicting parties.
- Contact person in case of unresolved problems and conflicts within the DS (e.g. between a DC and a supervisor).
- Neutral party to support the solution of problems and mediator.
- Responsible for resolving disputes where possible.
- Conduct an investigation in case of serious conflicts.
- Work according to the code of ethics and practices of the international Ombudsman Association (c.f. <http://www.ombudsmanassociation.org/about-the-role-of-an-ombudsman.php>).

4.8. Doctoral School Facilitator

The Doctoral School Facilitator ensures the coordination, management and development of the doctoral school. The Doctoral School Facilitator contributes to an effective, efficient and high-quality organisation of the doctoral school and doctoral education by assisting the Dean of the Faculty and the Head of the Doctoral School. He/she is assisted by the Programme Administrators and takes responsibility as their functional manager.

His/her responsibilities cover, but are not limited to:

- Ensure the day-to-day management of the DSSE.
- Be a contact point for all levels of Faculty and central University administrative and scientific stakeholders with regard to questions related to doctoral education at the DSSE. Liaise with the Rectorate, the Dean's office, and the BED.
- Assist the Head and Members' Council and Programme Coordinators and Committees in administrative and reporting matters of the DSSE.
- Ensure regular budget monitoring and forecasting.
- Keep an overview of Supervisors and DCs.
- Support the BED in matters related to ADR applications relevant to the DSSE.
- Propose, develop, and implement administrative procedures.
- Ensure streamlined and consistent administrative procedures within the DSSE, across the Doctoral Programmes and with the BED.
- Maintain and develop further existing IT- resources specific to doctoral education.
- Maintain and develop further existing online resources (e.g. DSSE-website, Moodle).
- Communication (in collaboration with the FSTM's communication officers).
- Coordinate Members' Council meetings.
- Manage all diploma supplement processes in coordination with the BED.
- Liaise with the coordinators of the Doctoral Training Units.
- Organisation of doctoral training modules at DS level.

- Support applications for funding of the School and of the DCs in coordination with the Programme Coordinators and the Research Facilitators of the FSTM. Communication with and reporting to funding bodies.
- Organise the various award competitions initiated by the Doctoral School.
- Ensure reporting procedures (e.g. annual report of DSSE activities).
- Contribute to quality assurance and quality enhancement within the DSSE in collaboration with the Head of Doctoral School and the Programme Coordinators and with the FSTM's Quality and Process Officer.
- Collaborate with the Rectorate's Alumni Officer to follow-up on the DSSE's doctoral alumni.
- Ensures within DSSE and across programmes compliance to UL, national and international codes of practice and guidelines.
- Advise the Head of the Doctoral School and the Members' Council in any other requested matters.

4.9. Programme Administrators

The Programme Administrators assist the Head, the Members' Council and the Programme Coordinators and Committees in administrative matters of the DSSE. They report to the Doctoral School Facilitator as their functional manager. They ensure the correct administrative and logistic functioning of the doctoral programmes.

Their responsibilities can vary, depending on the requirements of the Programme Coordinator. In general, they cover, but are not limited to:

- Manage the administration of the DCs in the programme(s) in collaboration with HR and the BED: registration, CET-nomination, ECTS records, diploma supplement and defence-procedures, etc.
- Administrative support for CET meetings and defences in coordination with the BED and the Department (organise travel and accommodation for CET- /Jury members; management of related documents; communication, etc.).
- Maintain and revise list of Supervisors and DCs affiliated to the programme(s).
- Organisation of the training modules of the programme(s) (announcement, registration, room booking, contact with lecturers and participants, ECTS records, certificates, as needed) as well as organisation of Doctoral Programme events like workshops and winter/summer schools.
- Contact person for external and internal information request, in particular from current and future DCs, as well as for central administration services (HR, Finance Department, BED, SIL etc.); communication inside and outside the programme(s).
- General administrative support for the DSSE, the Programme Coordinator(s) and the DCs (take care of travel and expenses, support orders and follow up on invoices, order office supplies, etc.). Organise financial support to the Candidates and assist them for travel organisation (liaise with suppliers, ePO, invoicing, travel bookings etc.) and/or defence and CET meeting organisation.
- Help optimizing IT resources and databases specific to doctoral education.
- Management of the programme budgets and take care of all related documents (Purchase Orders, Declaration of Expenses etc.).

Art. 5. Recruitment and Admission of Candidates

5.1. Recruitment

Members of the DSSE will follow the UL recruitment regulations and any other specific rules on recruitment and admission into doctoral training.

5.2. Admission of Doctoral Candidates

All Doctoral Candidates in the FSTM are enrolled in the DSSE, according to the UL Study Regulations. The integration of special cases (e.g. DCs simultaneously enrolled in a doctoral programme at another University) will be individually regulated in co-tutelle agreements and the Doctoral Education Agreement (c.f. UL Study Regulations)

Art. 6. CET Monitoring and Defence Procedures

6.1. Monitoring of the Candidate by the CET

Supervision will follow the rules and regulations outlined by the University of Luxembourg (Art. 37 (5) of the University Law, and the UL Study Regulations) , including a *Comité d'encadrement de thèse (CET)*, which will meet on a regular schedule. The involvement of international experts in the CET is encouraged.

Before a supervisor's proposition for a CET composition is sent to the Rector for nomination, the DSSE Administration and the concerned Programme Coordinator verify and approve it regarding formal and academic aspects respectively.

6.2. Defence of the Doctoral Thesis and Jury

The thesis is defended in front of a jury as defined in Art. 37 (6) of the University law of 27th June 2018 and in the UL Study Regulations.

In addition, the DSSE fixes the rule that at least two members of the jury do not have joint publications (actually published or in preparation) together with the DC.

6.3 Excellent Thesis Award for doctoral theses

6.3.1. Scope

The excellent thesis award will be given annually to around the best 10% of doctoral theses defended by doctoral candidates of the DSSE.

The main criterion for the award is the scientific and/or technological excellence and impact of the thesis. Excellence and impact are demonstrated by the novelty of the results, the advancement in knowledge achieved by the thesis and in new solutions presented in the thesis. Generally, excellence and impact are also manifested by research specific output, such as publications in respected and relevant journals or conferences, patents, publicly available datasets or software. The impact-factor of the journal should not be a criterion. Further criteria for the award are the quality and clarity of the presentation of the results in the thesis and in the self-assessment by the candidate (see 2(5) below).

6.3.2. Nomination Procedure

(a) Supervisors who wish to nominate a doctoral candidate for the excellent thesis award inform the president of the defence jury and the doctoral candidate the latest 6 weeks before the defence. They will provide the jury president with a written statement at least one week before the defence, why they wish to nominate the thesis. The statement should cover the same questions as the statements by the external jury members (see (b)). In addition, the supervisor should comment on the independence of the nominee.

(b) The president of the defence jury requests a written evaluation of the thesis of one to two pages from the two external defence jury members, including a clear statement if they support or not the nomination for the excellent thesis award. The statements should answer the following questions:

- How novel are the results presented in the thesis?
- How does the thesis present a major step forward in the field?
- How likely are the results to have a major impact on the research field?
- Is the dissertation particularly well and clearly written?
- Based on their own experience in the last years: is this thesis among the 10% best doctoral theses they have encountered?

The evaluations are sent to the jury president at least one week before the defence.

(c) The jury president informs the jury about the content of the statements by the external jury members and the supervisor.

(d) The latest on the day of the defence, the doctoral candidate submits a self-assessment of approximately 500 words to the jury president, that provides a clear narrative on the excellence and the impact of the doctoral thesis.

(e) After the defence, the defence jury discusses and decides if the doctoral candidate should be nominated for the excellent thesis award. The nomination is part of the thesis defence report.

(f) Once the defence report is uploaded in ServiceNow and in those cases where the jury supports the nomination for the award, the programme administrators will ask the jury president to provide the statements by the nominee, the external jury members and the supervisor.

(g) A file comprising the self-assessment of the nominee, the evaluations of the external jury members, and the statement by the supervisor will be sent by the programme administrator to the programme coordinator of the nominee's doctoral programme of affiliation. These files can be sent throughout the year, the latest on 30th September of the given period. The programme director together with the programme committee evaluates the files against field specific quality criteria and creates a shortlist of their nominees, which cannot exceed 30% of the number of defences in the programme during the nomination period. Any additional criteria, beyond those in (a), are written and communicated clearly on the webpage of the programme.

6.3.3. Timeline

The nomination period for eligible theses ends each year on 30th September and covers the previous 12 months. Only theses defended during this period are eligible. The statements by the nominee, the external jury members and the supervisor are collected until 30th September and transmitted to the programme coordinator. The programme coordinator forwards the shortlisted files to the DSSE facilitator before 15th October. The award decision has to be made by November 15th of the concerned year by the excellent thesis award jury (c.f. 4.) to allow an award ceremony in the framework of the annual UL graduation ceremony.

6.3.4. Selection

The excellent thesis award jury consists of one academic representative from each DSSE doctoral programme, nominated by the programme coordinator and listed on the DSSE webpage. The award jury will select the winners amongst the shortlisted nominees. The number of winners will (on average) not exceed 10% of the number of all defences at the DSSE of the concerned award period. The number of winners per programme will (on average) not exceed 10% of the number of all defences of that programme during the concerned award period.

The award will be given during the graduation ceremony in December. A participation of the awardees in the graduation ceremony is not mandatory to receive the excellent thesis award.

Art. 7. Approval of Training Modules and Courses

The DCs of the DSSE are required to obtain a minimum of 20 ECTS credit points of training modules.

The requirements for ECTS points awarded for the acquisition of transferable skills on the one hand and disciplinary/interdisciplinary competences on the other hand are regulated in the UL Study Regulations.

Further to the aforementioned, ECTS awards to Doctoral Candidates of the DSSE have to respect the following:

1. A maximum of 2 ECTS can be awarded for language courses during the course of the doctoral studies.
2. Secondments to other research institutions can be awarded with up to 1 ECTS per month of full-time work with a maximum of 10 ECTS during the course of the doctoral studies. The ECTS

award is subject to the submission of a report which outlines the benefits of the secondment for the doctoral training.

3. An ECTS award for the successful participation in M.A./M.Sc. courses has to be approved by the Programme Coordinator of the DC's Doctoral Programme

Further specifications of ECTS award rules can be set by the Doctoral Programmes respecting higher level regulations.

The research training modules that are offered by the different DS Programmes are approved by the Programme Coordinator/Committee and ECTS are validated by the respective programme.

Art. 8. Budget of the Doctoral School

An annual budget plan to support the school operations is developed by the Members' Council.

Art. 9. Quality Assurance

Quality assurance measures for the DSSE follow the rules of the UL study regulations. The Members' Council of the DSSE is responsible for quality assurance. The doctoral programmes can develop additional measures, non-contradictory to the main quality assurance measures of the DSSE. The DSSE will perform a quality assurance programme with measures targeting the following aspects:

- Individual training programmes, research plans, research environment, research work and progress monitoring
- Training modules
- Supervision and mentoring
- Regular evaluation of the school

Art. 10. Amendments, Changes to the Statutes of the DSSE

The DSSE Members' Council can change the main statutes of the DSSE by a vote in which at least 2/3 of all members of the Members' Council vote in favour. The Programme Coordinators are obliged to get the opinion of the Supervisors associated to their programmes with regards to the proposed changes. Before a change is decided, the Supervisors input has to be discussed in the Members' Council.

Editors notes/ Corrigendum:

In accordance with Art. 10 of the DSSE Main Statutes from 1. August 2019, the updated text of the current statutes was approved during the DSSE Members Council Meeting on the 24th September 2020.

The following clause was corrected after the MC approval:

<i>Original clause</i>	<i>Corrected clause</i>
<i>In Art. 4.2.</i> <ul style="list-style-type: none"><i>Changes these statutes, c.f. Art. 10.</i>	<ul style="list-style-type: none"><i>Changes the current DSSE statutes, c.f. Art. 10.</i>