



Eidgenössische Technische Hochschule Zürich  
Swiss Federal Institute of Technology Zurich

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## Department of Environmental Systems Science (D-USYS)

### Detailed stipulations regarding the doctorate of 27 January 2022

This English translation serves information purposes only and has no legal force. The original German version is the legally binding document.

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*The ETH Zurich Executive Board,*

at the request of the Department of Environmental Systems Sciences at ETH Zurich<sup>1</sup>, and pursuant to Art. 52 of the Ordinance on the Doctorate ETH Zurich of 23 November 2021<sup>2</sup>,  
*hereby decrees the following detailed stipulations regarding the doctorate:*

### Section 1 – General provisions

#### Art. 1 Scope and purpose

<sup>1</sup> These detailed stipulations govern the department-specific details for the doctorate at the Department of Environmental Systems Science (D-USYS) at ETH Zurich. They are based on the fundamental provisions of the Ordinance on the Doctorate ETH Zurich (DO) of 23 November 2021<sup>3</sup> and on the Rector's Implementation Provisions (IP) for the ETH Zurich Ordinance on the Doctorate of 23 November 2021<sup>4</sup>.

<sup>2</sup> The measures described below are intended to contribute to the quality assurance of doctoral theses in D-USYS. Decisive for the quality of doctoral theses are the doctoral students, their supervision as well as the topic of the doctoral project.

#### Art. 2 Doctoral committee (cf. DO art. 4)

<sup>1</sup> The doctoral committee is composed of at least four professors from different research fields.

<sup>2</sup> In the event of a tie vote, the chairperson of the doctoral committee has the casting vote.

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<sup>1</sup> Resolution of the D-USYS department conference of 3 December, 2021 (approval of the detailed stipulations).

<sup>2</sup> SR 414.133.1

<sup>3</sup> SR 414.133.1

<sup>4</sup> RSETHZ 340.311

### Art. 3 Person responsible for the doctorate at the department

<sup>1</sup> The chairperson of the doctoral committee is the responsible person for the doctorate at D-USYS.

<sup>2</sup> She or he may recommend for the attention of the Doctoral Committee the following:

- Approval of the members of the aptitude committee,
- Approval of co-examiners.

## **Section 2 – Admission to the doctorate**

### Art. 4 Doctoral plan (cf. DO art.11, IP item 3)

<sup>1</sup> The doctoral plan consists of 10-15 pages and must include the following:

- D-USYS title page (included in page count)
- Summary/Abstract (approx. half page)
- About the research project (this should constitute the main part)
  - State of research
  - Research objectives / research questions
  - Work plan (incl. methodology)
  - Optional: selection of preliminary results
  - Schedule and milestones
  - References / literature (not included in page count).
- Brief description of teaching tasks during the doctorate
- Brief description of additional tasks (such as organization of workshops, other tasks within the research group, etc.).

The template provided by ETH Zurich is to be used.

<sup>2</sup> The doctoral plan must be submitted to the D-USYS Doctoral Administration by e-mail as a PDF no later than 15 working days before the aptitude colloquium.

<sup>3</sup> If necessary, an updated version of the doctoral plan can be submitted after the aptitude colloquium, but this is not obligatory. The decision lies in the responsibility of the supervisor and the doctoral student.

### Art. 5 Aptitude colloquium (cf. DO art. 12-15, IP item 4)

<sup>1</sup> Doctoral students present their doctoral plan at the latest 12 months after provisional admission on the occasion of the aptitude colloquium. The organization of the aptitude colloquium lies in the responsibility of the institutes. The aptitude colloquium can be conducted publicly. The doctoral students and the Academic Services will be informed by the chairperson of the aptitude colloquium about the decision of the aptitude committee ("passed" / "failed") by means of a form.

<sup>2</sup>The aptitude colloquium lasts a maximum of one hour and proceeds as follows:

- Presentation of the project/research proposal in the form of a twenty-minute talk,
- Question & answer session,
- In-depth discussion and recommendations by the aptitude committee. The exact procedure of the discussion can be regulated by the institutes.

<sup>3</sup> A “failed” result may be repeated once, provided that the doctoral thesis supervisor agrees. The doctoral thesis supervisor may only refuse a repetition if the aptitude committee unanimously assessed the first attempt as “failed”. Any repetition must take place within three months of the first definitive result. In such case, on the form (cf. par. 1 fourth sentence) it is specified which measures need to be taken.

#### Art. 6 Composition of the aptitude committee (cf. DO art. 16)

At the request of the supervisor and after consultation with the doctoral student, the aptitude committee can be expanded to include further experts (e.g., project collaborators). All appointed professors and assistant professors of D-USYS or any other ETH department may be nominated for the position of chairperson.

### **Section 3 – Supervision of the doctorate**

#### Art. 7 Approval of adjunct professors (Titularprofessor/innen) and Privatdozent/innen as supervisor of the doctoral thesis (DO art. 5, IP item 7.1)

<sup>1</sup> If the doctoral thesis is to be supervised by adjunct professors or *Privatdozent/innen*, the approval of the institute and the department is required. In this case, the following documents must be submitted to the D-USYS Doctoral Administration before the official registration is done:

- Information on financing (see «Directives for Doctoral Students Employed at ETH Zurich»);
- Name of the ETH professor (according to Article 1 of the ETH Professors Ordinance) acting as co-examiner;
- Project description;
- Registration dossier of the candidate according to the Academic Services and
- Form Supervision of the Doctorate by a Privatdozent or an Adjunct Professor.

<sup>2</sup> D-USYS Doctoral Administration administers the process of approvals and thereafter submits the registration dossier to Academic Services.

#### Art. 8 Progress report (cf. DO art. 29, IP item 9)

The internal department template is to be used for the progress report. In addition to the progress, suggestions for the further development of the doctoral thesis as well as potential

difficulties concerning the progress of the research work and proposed solutions are documented in detail in the progress report. The doctoral thesis supervisor and the doctoral student are both obliged to store progress reports and the respective status conversation reports until the time of dematriculation. If legal proceedings are pending the documents must be retained until a legal ruling has been issued.

#### Section 4 – Individual doctoral studies

##### Art. 9 Regular doctoral studies (cf. DO art. 36, IP item 10)

<sup>1</sup> To obtain the minimum 12 ECTS credits required in regular doctoral studies, the doctoral student must either pass a performance assessment or demonstrate an active, verifiable contribution. One ECTS credit generally corresponds to a workload of 25–30 hours. Credits must be earned in each of the following three categories:

- a. Consolidation of knowledge in the research area of the doctoral thesis and the extension of knowledge beyond the original discipline, e.g., through attendance of courses designed especially for doctoral students, regular Master's degree courses or courses from the third year of Bachelor's degree studies.
- b. Acquisition of transferable skills, e.g., by attending soft-skills courses or participating in ETH Zurich bodies or committees.
- c. Integration into the scientific community, e.g., by attending international conferences.

<sup>2</sup> Doctoral students must acquire at least 1 ECTS credit by attending a course on the topic of ethics and good scientific practice. This academic achievement falls under category b (transferable skills).

Academic achievement	ECTS
Regular courses	As per course catalogue entries
Institute / doctoral colloquia (with talk)	1 ECTS
Conference outside ETH with talk / poster	1 ECTS
"Summer Schools"	
- 1-3 days	1 ECTS
- 1 week	2 ECTS
- Plus poster / talk	1 additional ECTS
Courses / workshops on "personal and social competences"	
- 1-3 days	1 ECTS
- 1 week	2 ECTS
- Plus poster / talk	1 additional ECTS
Didactic courses and teacher training / Teaching	As per course catalogue entries
Certificate courses	
Language courses	As per Language Centre information
Participation in university bodies / committees / groups (minimum duration 1 year)	1 ECTS per year
- Member of the executive committee of a university group	1 additional ECTS per year

Table adopted from IP item 10.3

<sup>3</sup> The following achievements/ activities are excluded from counting towards the 12 ECTS credits for regular doctoral studies:

- a. Achievements before entering the doctorate;
- b. Achievements in the framework of multiple matriculations at another level of studies, except for credits earned in the context of teacher training / Teaching Certificate courses;
- c. Participation in seminars/courses of the individual professorship, such as group meetings, retreats etc.;
- d. Participation in teaching;
- e. Attendance of courses with no verification of personal performance.

## **Section 5 – Doctoral thesis and doctoral examination**

### Art. 10 External doctoral thesis projects (cf. DO art. 25, IP item 6)

External doctoral thesis projects require the approval of the doctoral committee. The supervisor is responsible for ensuring that the supervision of doctoral students at the external institution is guaranteed in accordance with ETH regulations.

### Art. 11 Cumulative doctoral theses (cf. IP item 11.2)

If a publication that is already part of one or more doctoral theses of ETH Zurich is to be considered as part of a cumulative doctoral thesis, the following applies:

- The doctoral thesis must clearly refer to the previous and planned doctoral thesis(es) of ETH Zurich in which the publication was/will be used (author, title, year, page references, doi link - if already available) and the publication itself must be correctly cited; and
- If a publication is already part of one or more doctoral theses of ETH Zurich, a detailed statement of the doctoral candidate's own contribution to the corresponding chapter in the doctoral thesis is required.

A declaration of own contribution is recommended for publications with co-authors, even if these publications are not part of several doctoral theses.

### Art. 12 Registration and approval of co-examiners (cf. DO art. 40, IP item 11.3)

<sup>1</sup> The composition of the entire examination committee must be submitted to the D-USYS Doctoral Administration no later than three months before the examination. The request is examined by the chairperson of the doctoral committee and approved by the doctoral committee.

<sup>2</sup> At least one co-examiner must come from outside ETH Zurich. Eligible are active professors from other universities or persons who are proven experts in the area of the doctoral thesis and are equivalent to professors in this. This does not include persons from universities of applied

sciences or private industry with the corresponding expertise, they may, however, be appointed as further members of the examination committee. (cf. IP item 11.3c.).

<sup>3</sup> It is mandatory that an independent person is part of the examination committee (for example: not part of the same professorship, no cooperation in the context of the doctoral thesis). This can be the external co-examiner. In case of a dependency relationship between the supervisor and/or the doctoral student with the external co-examiner, another independent co-examiner is necessary.

#### Art. 13 Procedure before the doctoral examination and submission of examination copies and reports (cf. DO art. 39, IP item 11.4)

<sup>1</sup> Registration for the doctoral examination may only proceed with the consent of the doctoral thesis supervisor and in consultation with the co-examiners (cf. IP item 11.4).

<sup>2</sup> The examination copy of the doctoral thesis must be submitted in electronic form by the doctoral student to the examination committee and the D-USYS Doctoral Administration at least twenty working days before the examination (cf. IP item 11.4).

<sup>3</sup> Registration must take place at least 15 working days before the examination date and involves submitting a printout of the title page of the thesis and the official Academic Services form. This form includes:

- A request for the issuing of the doctoral degree certificate;
- A declaration by the doctoral student that they have authored the doctoral thesis independently and have not submitted it to any other university;
- A confirmation by the department that the doctoral student has acquired the full number of ECTS credits required for doctoral studies;
- A confirmation by the department that an examination copy of the doctoral thesis has been delivered in the prescribed form.

<sup>4</sup> The reports must be submitted in electronic form to the D-USYS Doctoral Administration at least five working days before the examination (cf. IP item 11.8). The D-USYS Doctoral Administration checks whether the reports meet the minimum requirements according to IP item 11.8.

#### Art. 14 Doctoral examination (and presentation) (cf. DO art. 39, IP item 11.6 and 11.7)

Doctoral examinations are usually open to the public. If doctoral students wish to have a non-public examination, they must submit a request to the D-USYS Doctoral Administration. The examination includes a presentation (duration 20 minutes), followed by a defence, including questioning by the members of the examination committee. The doctoral examination lasts at least 1 hour and 20 minutes, Questions from the audience are allowed after the questioning by examiners is completed (questions from the audience do not count towards the minimum duration of the doctoral examination).

#### Art. 15 Procedure after the doctoral examination

If the doctoral thesis was accepted with additional requirements, a maximum revision period of six months applies.

### **Section 7 – Final clauses**

#### Art. 16 Transitional provisions

<sup>1</sup> For doctoral examinations conducted before 1 January 2024, the provisions on co-examiners pursuant to Annex 1 shall apply. (cf. DO art. 66)

<sup>2</sup> Doctoral students who complete their individual doctoral studies under the previous regulations in accordance with DO Art. 65, follow the provisions set out in Annex 1.

#### Art. 17 Entry into force

These detailed stipulations enter into force retroactively as of 01.01.2022. They replace the D-USYS detailed stipulations on doctoral studies of 01.11.2013.

## D-USYS guidelines for the employment of doctoral students

The salary rates for doctoral students are applied in accordance with art. 8 para. 3 of the Ordinance governing scientific employees at ETH Zurich<sup>5</sup>, in conjunction with item 1 para. 3 of the directives for doctoral students employed at ETH Zurich<sup>6</sup>.

### Premises

- In general, it is welcomed, also by the doctoral students themselves, that doctoral students are also active in teaching and take on some operational tasks ("infrastructure tasks") during their doctorate.
- Commitment to such tasks in addition to the doctoral project, which goes beyond the "usual" extent that may generally be expected of all doctoral students, should be rewarded by higher remuneration.
- The proposed threshold values for the time required for additional work in teaching and operation, above which a higher classification is intended, are to be understood as guidelines.

### Guidelines

- Linear subdivision of the 30% range of time allowed for extra work in addition to the doctoral project:

Level	Time requirement in days per year	% Working time (average over one year)
1 = standard	0 - 15	0 - 6
2	15 - 30	6 - 12
3	30 - 45	12 - 18
4	45 - 60	18 - 24
5	60 - 75	24 - 30

- The thresholds between the levels are to be understood as guideline values. They serve to ensure transparency and harmonisation in the remuneration of doctoral students at D-USYS. They consider the different needs, cultures and financial framework conditions of the individual institutes and professorships.
- In consultation with the doctoral student, the working time spent on tasks in addition to the doctoral project that exceeds the employment level during a year may also be compensated by an extension of the employment.
- The classification and the services beyond the doctoral project expected of the doctoral students are already communicated to the doctoral students during the employment interview.

Approved at the department conference D-USYS on 27.02.2015; Entry into force on 01.03.2015, revised by 01.03.2022.

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<sup>5</sup> SR 172.220.113.11

<sup>6</sup> RSETHZ 622



## Detailed regulations for Doctoral Studies D-USYS (effective on 01.11.2013)

The Department of Environmental Systems Science decided at the departmental conference in completion of the Ordinance on Doctoral Studies ETH Zürich of 1 July 2008 (Version 1 November 2013) and the Rector's Implementation Provisions of 17 October 2013 (Version 1 November 2013):

### Art. 1

#### General regulations

<sup>1</sup> The doctoral students discuss the continuing education programme of their doctoral studies with the supervisor. The supervisor and the doctoral student compile a thematically adapted doctoral programme.

<sup>2</sup> For doctoral studies outside of the ETH domain, a qualitative equivalent doctoral programme must be compiled, which is individually adapted to the situation.

### Art. 2

#### Objective, form and requirements (see ODS Art. 23 and Art. 24)

<sup>1</sup> The educational activities are approved as credits. (One credit corresponds to a workload of between

25 - 30 working hours). 12 credits are required, of which at least one third has to be acquired outside of the research field.

<sup>2</sup> To acquire credits the doctoral student must prove a personal contribution.

<sup>3</sup> Doctoral students who finish their doctoral thesis in less than three years, have to acquire proportionally less credits.

### Art. 3

#### Elective courses for the acquirement of credits

<sup>1</sup> All offered courses according to the actual semester programme and courses of further training "teaching certificate" at Swiss Universities (entire ETH domain and Universities). The "teaching certificate" can acquire a maximum of 4 credits.

<sup>2</sup> Only language courses, offered by the Language Center UZH/ETHZ as "Courses for Doctoral Students", can acquire a maximum of 4 credits. The credits are only accepted, if certification of the course is given by the Language Center UZH/ETHZ.

<sup>3</sup> Further education courses and advanced studies, summer schools and intensive courses in Switzerland and abroad organized by accredited universities and research institutions.

<sup>4</sup> For the visit of courses with limited attendance, admission cannot be granted. Generally the enrolment and attendance fee due, is paid by the doctoral student.

### Art. 4

#### Acquirement of credits outside of courses

Credits can also be acquired by performance outside of courses.

Possibilities are:

- Presentations (lecture, poster) at scientific events, such as conferences, symposiums, workshops. A maximum of 4 credits can be acquired.

- Participation in the organisation of scientific events, review activity, information meetings, or as collaboration in a commission within the department or the ETH Zurich. A maximum of 2 credits can be acquired.

- Contributions at colloquia and seminars are also worth 2 credits maximum.

## **Art. 5**

### **Not creditable courses and performances**

<sup>1</sup> Examinations and seminars, that a doctoral student was required to pass for admission, cannot be credited for the doctoral studies.

<sup>2</sup> Courses, which have been attended as part of the Bachelor-/Master programme can also not credit.

<sup>3</sup> Not creditable is the visit of courses without the evidence of personal contribution.

## **Art. 6**

### **Modality of the confirmation of acquired credit points**

For ETH courses the fulfilment of the performance assessment as per course catalogue is mandatory, only electronically issued credits are accepted. On the confirmation sheet for doctoral students, only courses which cannot be enrolled under "myStudies" will be confirmed.

## **Art. 7**

### **Control of the required credits**

It is the responsibility of the supervisor of the dissertation to monitor the acquirement of the credits for the doctoral studies. The supervision of the documents must be ensured to fulfil the rules, this is confirmed by the supervisor before the doctoral student can register for the Doctoral exam by signing the Transcript of Records/Course Attendance Confirmation Sheets.

## **Art. 8**

### **Proof of acquiring credits for doctoral studies**

The departmental secretariat confirms the obtained necessary 12 credits for the doctoral studies on the form "Registration for the Doctoral Examination" based on the signatures of the supervisor (Art. 7) on the transcript of records and on every confirmation sheet for doctoral students.

## **Art. 9**

### **Exception regulations**

Should there be uncertainty regarding the application of the provided guidelines, the management of the department (head of the department or doctoral committee) will make a decision in cooperation with the supervisor.

## **Art. 10**

### **Transition rules**

The previous regulations apply to doctoral students who started their doctorate before 31.10.2013.

Approved at the departmental conference of the D-USYS on: 13.12.2013/approved from the Executive Board ETHZ: 11.03.2014