



University of
Zurich ^{UZH}

ETH zürich

PhD Program in Biomolecular Structure and Mechanism

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BSM PhD PROGRAM REGULATIONS

PROGRAM OVERVIEW

The doctoral program BSM offers a structured environment for MSc graduates intending to complete a PhD with a focus on biochemistry, molecular biophysics and structural biology. The program is integrated within the Life Science Zurich Graduate School (LSZGS), a joint organization of the University of Zurich (UZH) and ETH Zurich. The program supports the students in the course of their graduate research and studies, which normally takes 4-5 years. Graduate students are enrolled either at the UZH Faculty of Science (MNF) or at the ETH Department of Biology (D-BIOL).

Admission to the Program is handled by the Admissions Committee, which selects candidates according to their academic qualifications, previous research experience and motivation. Student admission can occur in two ways:

1. Students apply to the Life Science Graduate School and pass the selection process. Admission is gained after accepting an offer from one of the participating faculty members.
2. Alternatively, students can also join the BSM PhD Program after being recruited directly by participating faculty members (Track II).

For completion their of PhD studies, graduate students have to fulfill the following requirements:

- submission and successful defense of a PhD thesis describing an original body of experimental or theoretical research
- acquisition of 12 credit points (see below)
- any other formal requirements imposed by the host institution (UZH or ETHZ, see Further Information).

The doctoral degree is conferred by either UZH (Dr. sc. Nat.) or ETHZ (Dr. Sc.), depending on the academic affiliation of the responsible faculty member (see specific regulations as detailed below and Further Information).

THESIS COMMITTEE

The PhD student is required to set up a Thesis Committee in consultation with the thesis supervisor. The student is responsible for organizing regular Thesis Committee meetings.

The Thesis Committee should consist of at least three persons. The composition of the Thesis Committee is further subject to doctoral study regulations of the respective host institution (UZH or ETHZ, see Further Information):

- The thesis supervisor (for UZH students: responsible faculty member; for ETH students: faculty member of D-BIOL)
- At least one other faculty member of the BSM PhD program
- Additional faculty member from UZH or ETHZ, or external members (for ETH D-BIOL students: external PI)

For UZH students, at least two members of the Thesis Committee have to have the right to confer the PhD (Promotionsrecht) at the UZH Faculty of Science (MNF). ETH students are required to have a second thesis supervisor, ideally one who is also a faculty member of the BSM Program.

One of the members – other than the student's direct supervisor – acts a formal chair of the Thesis Committee. The Thesis Committee is responsible for monitoring the progress of the doctoral thesis, for the formulation and supervision of the complementary course work, and for making decisions to continue or discontinue the thesis, in compliance with the respective regulations for doctoral studies at the UZH and ETHZ (see Further Information).

THESIS COMMITTEE MEETINGS

The student is responsible for organizing Thesis Committee meetings on an annual basis. At ETH DBIOL: are committee meetings minimally once per year.

At least two members (including the thesis supervisor) have to be present at each meeting. The first meeting should be attended by all members of the Thesis Committee. Meetings of ETH D-BIOL students require entire committee to be present.

At the end of each meeting, the Thesis Committee will summarize the student's progress, provide recommendations and, if necessary, advise on change of research direction or termination of the thesis. A Thesis Committee report form has to be filed with the Program Administrator after the meeting.

Thesis Committee meetings are held on an annual basis. The first meeting should take place within 12 months from the start of the graduate studies.

Ahead of the first Thesis Committee meeting, the student is required to write a formal Research Plan (approximately 2000 words) describing the PhD project. The format of the research plan is based on that required for admission to the doctoral study at ETHZ (<https://www.biol.ethz.ch/en/doctoral-studies/research-proposal.html>). For subsequent meetings (2nd, 3rd year) the students prepare a progress report (up to 1000 words) and submit it to the Thesis Committee at least three days before the meeting.

ETH D-BIOL students: the Research Plan must be submitted within 10 months after starting their studies. Within 12 months of provisional admission, doctoral candidates must complete an Aptitude Colloquium in the presence of the Thesis Committee and the chairperson of the D-BIOL aptitude committee. The aptitude colloquium is an oral examination of at least 60 minutes duration consisting of a presentation by the candidate on the research project described in the doctoral plan (maximum duration: 30 minutes), followed by an oral exam (minimum duration: 30 minutes) by the thesis committee on specific aspects of the research project described in the doctoral plan.

UZH students: The Research Plan has to be submitted to the Thesis Committee members at least one week before the committee meeting.

STUDENT DATABASES

The formal progress of the student is monitored online in the MNF StudentAdmin (UZH) and MyStudies (ETH) systems. The student is responsible for maintaining up-to-date records and for the timely submission of the research proposals, progress reports and thesis committee report forms. Additionally, ETH students are currently required to maintain up-to-date records in the DissGo database (<https://www.dissgo.uzh.ch>).

THESIS DEFENSE

Submission of the doctoral thesis and its defense complies with the rules and regulations of the respective host institution (UZH or ETH). The doctoral regulations of the respective host institution govern the format of the doctoral thesis and the defense examination, the choice of thesis examiners, and any additional internal or external review procedures (see Further Information).

COURSEWORK DURING PHD STUDIES

To graduate, students are required to accumulate 12 credit points for coursework. Credit points can be further acquired for presentations at scientific meetings or the organization of the BSM PhD Program student retreats and seminars. For ETH D-BIOL students: credit points have to be collected in all three areas of :

- a) Increasing scientific knowledge
- b) Increasing competencies in areas outside of science (1ECTS Ethics in Scientific Integrity is obligatory)
- c) Integration into the scientific community

- **Structural Biology Course (mandatory for 1st year students, 1 ETCS)**

The course takes place over two days (Day 1: NMR+ EM; Day 2: X-ray Crystallography + Single Molecule Spectroscopy). For a successful participation in the course, the students have to pass a written exam (1 credit point). The course will be given every year by faculty members of the BSM PhD Program. If possible, it should be attended during the first year of the PhD study. The course is open to students from other PhD programs and listed on the Zurich Life Science Graduate School website.

- **Annual Course on Current Topics in Structural Biology (mandatory attendance of at least two courses, 1 ETCS)**

The annual Current Topics course is to give an overview of state-of-the-art methodological developments in structural and computational biology and highlights research activities of the laboratories of BSM PhD Program faculty members. The one-day course is presented by faculty members of the BSM PhD Program. The speakers and topics change for each course. One credit point is awarded for attendance of two courses. BSM PhD students are required to attend the course at least twice during their studies.

- **Introduction to Scientific Integrity (mandatory, 0 ETCS)**

This two-hour lecture provides an introduction to the central rules of good scientific practice and familiarizes the student with various types of codes of conduct and guidelines that apply to research in the life sciences. The course is mandatory for BSM students who have started their Ph.D. studies after December 2017. It can be substituted by equivalent courses offered by the respective institutions (e.g. PSI).

- **Lecture courses at the UZH or ETHZ (up to 9 ETCS)**

Regular and special lecture courses and block courses offered by the ETH Department of Biology and/or the UZH Faculty of Science. Credit points awarded for the completion of the courses are based on their respective ECTS points.

- **Ethics in Science (Part 1 and 2; 1 ETCS)**

This course, organized by the Molecular Life Sciences PhD Program, gives an introduction in methods and tools to identify, understand and address ethical issues that arise during scientific work. One credit point is awarded for the attendance of the course.

- **Scientific Writing Course (1 ETCS)** BSM Program students are encouraged to attend a Scientific Writing course to learn to write scientific manuscripts and papers. The BSM PhD Program Scientific Writing course is organized once a year and lasts three days (part time with exercises). One credit point is awarded for attendance.
- **Transferrable skill and language courses organized by the LSZGS or other institutions (up to 6 ETCS)**

The Life Science Zurich Graduate School offers courses on project management, team working, time management, entrepreneurship, which students can attend voluntarily. A total of up to 6 credit points can be awarded for attendance of “soft skill” courses. Of the 6 credit points, a maximum of 2 can be awarded for language courses organized by the language center of the University/ETHZ.

- **Oral and poster presentations at scientific meetings (up to 2 ETCS)**

One credit point can be awarded for a poster or oral presentation at a scientific meeting, conference or workshop (including BSM PhD Program student retreat). Up to two credit points can be acquired during the course of the PhD study. A maximum of one credit point can be awarded for presentations at the BSM PhD Program student retreat.

- **Attendance of external courses and workshops (up to 6 ETCS)**

The BSM PhD program encourages further education by attending external courses and workshops on topics related to the research within the BSM PhD Program (e.g. EMBO/EMBL or CSHL courses). Credit points (up to two per course) for the attendance of a course can be awarded on a case-by-case basis upon consultation with the program director/administration.

- **Seminars**

BSM Program students are strongly encouraged to attend regular seminars related to molecular biophysics and structural biology either at the UZH or the ETHZ. For UZH students, one credit point can be obtained for attending a specific number of research seminars within the BCH405 module.

TEACHING ACTIVITIES

BSM PhD Program students are required to participate in the teaching activities at the UZH and ETHZ. Specific teaching requirements are stipulated by the doctoral study regulations of the respective host institution and further governed by the home Department or Institute of the responsible faculty member. In some cases, credit points for teaching are awarded based on regulations of the host Department or Institute. ETH-DBIOL awards no credit points for teaching

ANNUAL STUDENT RETREAT

Each year, students in the BSM Program are encouraged to attend a joint retreat at which they present the results of their research to their peers. Student retreats are organized by the students themselves, under the supervision of the Program Directors. The Program Administrator assists with organizational matters. PhD students are allowed to invite external speakers. Faculty members of the BSM Program do not attend the student retreats unless invited by the students. Students involved in the organization of the BSM Program retreat are awarded one credit point.

STUDENT SEMINAR SERIES

Each year, PhD students of the BSM Program can invite an external speaker of their choice for a one-day seminar visit at the UZH or ETHZ. The student in charge (a volunteer, or elected student representative) has the

responsibility to organize the visit of the speaker and the seminar. The responsible person is awarded one credit point for organizing the seminar visit.

ACKNOWLEDGEMENT IN PUBLICATIONS AND PRESENTATIONS

Any publications with a PhD student as author or co-author should acknowledge the “Biomolecular Structure and Mechanism PhD Program of the Life Science Zurich Graduate School” in the author’s affiliations or the acknowledgements. The BSM Program should also be mentioned on posters and in the acknowledgements during scientific talks.

FURTHER INFORMATION

Specific regulations for doctoral studies at the Faculty of Science, UZH

<http://www.mnf.uzh.ch/en/studium/phd/checkliste-fuer-doktorierende.html>

https://www.mnf.uzh.ch/dam/jcr:8c52545a-181c-405f-8d01-9d6220f8e4df/DO_TeilA_2020-11-30%2012.50.53.pdf

[http://www2.zhlex.zh.ch/appl/zhlex_r.nsf/0/0582FC33E0EADF89C125787700405A21/\\$file/415.463_31.1.11_\(Vollversion\)_73.pdf](http://www2.zhlex.zh.ch/appl/zhlex_r.nsf/0/0582FC33E0EADF89C125787700405A21/$file/415.463_31.1.11_(Vollversion)_73.pdf)

https://www.mnf.uzh.ch/dam/jcr:755114d5-ca57-4314-8d85-b5bad83a1b63/DO_BSM_E_2013-07-01%20.pdf

Specific regulations for doctoral studies at the Department of Biology, ETHZ

<http://www.biol.ethz.ch/en/doctoral-studies.html>

https://ethz.ch/content/dam/ethz/main/doctorate/files/Detailbestimmungen_Dep/2022-01-27_Detailbestimmungen_BIOL_EN.pdf

<https://rechtssammlung.sp.ethz.ch/Dokumente/340.31en.pdf>