

Regulations of the Master's and Doctoral Studies in the Department of Marine Biology

Characterization of the department: Research and teaching in the Department of Marine Biology focus on understanding the processes of life in the sea and in aquatic environments on different levels: from understanding the molecular, biochemical and physiological mechanisms occurring on the level of the cell and the organism, to comprehensive research of processes in populations and the interaction of the individual and the populations with the marine environment. The studies proposed in the department include experimental works at sea and in the laboratory, theoretical works based on analytical, statistical and computational tools, use of advanced technologies and molecular, optical and acoustic tools, remote sensing and GIS systems and works including a multidisciplinary incorporation of approaches.

Language of the studies: The official language of the studies in the department is English. Proficiency in English at a level appropriate for advanced studies is a requirement for admission to the department. The "Research Students Forum" course, the departmental seminar and doctoral lectures will all be delivered in English. The other courses will be delivered in English or Hebrew according to the lecturer's decision. If a non-Hebrew-speaking student is present in the course, the course will be taught in English.

Master's studies in the Department of Marine Biology

Admission requirements for master's studies in the department: The admission requirement for master's studies in the department is an average of at least 85 in a bachelor's degree in life sciences from an accredited university or college in Israel or abroad. A student who holds a bachelor's degree in a field other than life sciences will be required to complete complementary studies as the head of the department or a Departmental Admissions Committee appointed by the head of the department will determine. In special cases, a full year of complementary studies will be required, in which the student will be required to attain a minimal average grade of 85 as a prerequisite for admission to the department. In any case, the complementary studies courses will not be included in the reckoning of the credit points required for the degree. Students whose average from their bachelor's degree studies is lower than 85 but is at least 80 may be granted "probationary" admission with the approval of the chairman of the Departmental Teaching Committee. Such a student will be required to complete the first semester of the studies with an average grade of at least 85 as a requirement for their continued studies in the department.

Exceptions Committee for admission to the department: Students whose average is lower than 80 and higher than 76 may be admitted to the department in a "probationary" status with the approval of an Exceptions Committee, which includes the potential instructor, another researcher from the department and the chairman of the Teaching Committee (or the head of the department, if the chairman of the Teaching Committee is the potential instructor). The requirements for a student's admission through the Exceptions Committee are as follows:

1. The student has an instructor from the department (a half-time position, or higher, in the department) who is willing to admit them to master's studies.
2. The student has done research experience in the potential instructor's laboratory for at least 40 hours (paid hourly), during which the potential instructor could gain the impression that the student was suitable for master's studies.

3. The student will undergo an oral examination by the Exceptions Committee, which will include general background in life sciences and a reading of two research articles, according to the choice of the committee together with the potential instructor.
4. The instructor will write a reasoned application letter in which he states that he is aware that the student is being admitted in an exceptional status and that the student must attain an average of 85 in the first semester's studies as a requirement for his/her continued studies in the department.

A student admitted through the Exceptions Committee is considered the same as any other "probationary" student, including scholarships from the department and the instructor's obligation to pay an increment.

Mandatory studies: The scope of the studies for the master's degree – 32 semester hours and the scope of the studies for the doctor's degree – 12 semester hours, of which at least 2 semester hours are in advanced seminars.

Departmental seminar: The departmental seminar is a platform for researchers from the department and from outside the department to present their current studies, and where the department's doctoral students defend their theses. The department ascribes great importance to the participation of all its students in the departmental seminar. The hearing of lectures, the presentation of questions and the raising of ideas at the end of the lecture contribute greatly both to the lecturer and to the development of creative and critical scientific thinking among the students. Participation in the seminar is **mandatory for master's and doctoral students**. A passing grade in the departmental seminar course will be awarded based on minimal presence in 80% of the seminars for two years (other than absence for legitimate reasons such as army reserve duty or an illness). A student living in Eilat and doing their thesis at the Interuniversity Institute is required to participate in the institute's weekly seminar in Eilat and to present a certificate of attendance in 80% of the seminars.

Master's seminar: The master's degree students present their thesis to the entire department as part of the defense of their thesis in a master's seminar. Participation in the master's seminar is **mandatory for master's and doctoral students** and absence is permitted only with the advance approval of the course coordinator or on presenting a sick note / certificate of army reserve duty. A student living in Eilat and doing their thesis at the Interuniversity Institute is required to deliver their master's lecture in Haifa. A master's degree or doctoral student who works in Eilat most of the time may participate in the seminar via Skype or videoconferencing or in any form of remote learning. The department encourages its students to present their master's thesis in English, but permits presentation in Hebrew with the approval of the Teaching Committee's chairman and the thesis instructor.

Selection of an instructor: Each student must have at least one instructor (but no more than two) out of the department's academic faculty members. The maximal number of instructors permitted is three, including extra-departmental instructors.

Students who have enrolled to the department, have met with the department's researchers and have not yet selected an instructor for the degree are required to conduct a rotation between three laboratories at the start of the first academic year. The student is required to work at least 50 hours in each laboratory during their month of rotation. **Obtaining a living scholarship from the department is contingent on the submission of an approved rotation plan to the department's secretary office.** The student may terminate the rotation at any time if they have selected a master's instructor and the

instructor has agreed to admit them. If a student does not find an instructor at the end of the rotation, their studies in the department will be terminated. If the student fails to meet the terms of the rotation (50 hours per month), they will be asked to return the scholarship.

Selection of the thesis topic will be made with the approval of the instructor/s, in observance of the thesis's compatibility with the department's requirements. The thesis must be based on one or more of the following types of research: experimentation, observation, data analysis and theoretical research (models). A scope of work completable within only two years, including writing, must be observed. In exceptional cases, extension of the studies' duration by over two years will be contingent on the approval of the head of the department and the faculty secretary office after a written application is submitted providing reasons for the need for the extension.

Research proposal: By the end of the first academic year, the student will submit a research proposal at a scope of up to 5 pages, which will be written in English. The proposal will include a literary background, purposes, methods, initial results, the importance of the research and literature (the list of literature is not included in the page count). After the proposal has been submitted, an "Adjudication Committee" will be convened, whose members will comprise the instructor/s, the student and two or three other faculty members. The student will present to the committee the research question, their work plan, including an overview of the literary background, the planned research plan and the expected thesis's scientific contribution. The committee will ask the student clarification questions and will examine the proposed research's compatibility with the criteria for a master's thesis in the department, both in its scientific-academic aspects and in its logistical aspects (such as the time required for its completion, the availability of funding and equipment, the prospects of success, and so forth). The committee is authorized to approve the research proposal, reject it or require that modifications be made to it. The committee's approval will be required as a condition for the student's continued work. In the event that the committee requires that modifications be made to the research plan, the student will be required to submit an amended research proposal (2-5 pages) to the committee within a month. The committee will decide whether to accept or reject the amended proposal within two weeks of the day of its submission. In the event that a student's amended research proposal is rejected, a committee comprising the student's instructor, the head of the department and the chairman of the Teaching Committee will be convened and will discuss the student's continued studies in the department.

Writing of the final thesis and preparation for the master's final examination: The scope of the final thesis will not exceed 60 printed pages including diagrams and tables, but not including a bibliography and appendices. The text will be printed in accordance with the guidelines of the Graduate Studies Authority. The language of the paper: English. A summary in Hebrew will be attached to the thesis. The body of the thesis will usually be drafted in the following order: scientific background, purposes of the thesis, methods, results, discussion and conclusions. If the student published an article or prepared an article for publication, they may add the article as a chapter of their thesis.

Certification by the instructor/s that the written final thesis is eligible for submission is a requirement for the start of the preparations for the final examination. After obtaining the certification, the student must apply to the Graduate Studies Authority to have the thesis paper undergo a formal-technical review before it is submitted for adjudication to the department's secretary office. The student must also apply to the school's secretary office to obtain written certification of the completion of all their academic and administrative obligations. After obtaining the required certifications, the student will apply to the head of the department in a request to appoint the panel of examiners and to schedule a date for the final lecture and the examination. The panel of examiners will include the instructor/s

and two other examiners, who will receive a copy of the written thesis. The names of the examiners will be provided to the student on the day of the examination.

The final lecture and the final examination: The final lecture and the examination will be held consecutively on the same day. The lecture will be open to the public and participation in it is mandatory for master's and doctoral students in the department (master's seminar). One week before the lecture, the student will send the summary of the thesis to the department's members and students. The lecture must be around 45 minutes long, at the end of which a discussion will be held during which the student will answer questions from those in attendance. The final examination will begin immediately after the lecture. The first part of the examination will focus on questions related to the written final thesis. The examination's second part will include general questions on topics pertaining to the department, which are not necessarily related to the topic of the thesis. The general grade for the master's studies will be awarded based on the weighted grade of the courses (30%), the grade of the final thesis (40%) and the grade of the master's examination (30%). The panel of examiners may deviate from the final weighted grade by 3 points in either direction. The minimum grades requirement for eligibility for a degree from the faculty are: minimum grade in each course of the master's studies – 65; minimal grade in the final examination – 70; minimal grade in the final thesis – 70; final minimal average for obtaining the degree – 76.

The examination's committee has the authority to require that amendments be made to the written thesis. After the making of the amendments, if any have been required, the student will provide the head of the department with a report specifying the modifications made, as well as with a letter from the instructor/s certifying the completion of the final thesis as required in the examination. The student will then submit to the head of the department three bound copies of the final thesis, as well as a copy on digital media (such as a CD / thumb drive). One copy will be added to the final theses and doctorates library at the department's secretary office, and the other will be delivered for safekeeping at the university's library. The delivery of the copy to the department's secretary office and the sending of a Form of Deposit of Master's Theses to the Graduate Studies Authority will be deemed as the date of completion of the master's studies.

Doctoral Studies in the Department of Marine Biology

The purpose of the studies for a doctoral degree in marine biology is to encourage and promote research in marine sciences and marine oceanography. The results of the various studies conducted in the department will be published on the most distinguished forums of international professional journals. The track will allow outstanding students to conduct their research in a department incorporating a variety of disciplines in marine biology.

Admission requirements for doctoral studies in the department:

1. A master's degree (MSc. or equivalent) in a written thesis track or a certificate of eligibility for a degree after approval of a thesis in the following fields: in marine biology, biological oceanography, or in sciences related to these fields from an accredited institution of higher education in Israel or abroad. Holders of a master's degree in other fields may also apply, provided that they meet the admission requirements. Such applicants will be required to complete complementary studies according to the decision of the Departmental Committee of Doctoral Studies.

2. An average general grade of at least **90** in a master's degree, with the grade for the thesis being at least **90** (Very Good). There may be an exception in special cases according to the decision of the department committee and with the approval of the head of the department, provided that they meet the minimal admission requirements as specified in the doctoral studies regulations. Students who possess a copy of a published article from their master's research or a manuscript sent for publication in an international scientific journal will be awarded priority.

The course of the studies in the doctoral track:

The duration of the research and studies program is four years. To obtain the degree of "Doctor of Philosophy", the students must meet the following requirements:

1. Finding an instructor for the research: Admission to the doctoral track is dependent on written notice from the instructor of their willingness to instruct the student and to see to their research needs. The student must engage at least one potential instructor who is a faculty member ranked Senior Lecturer and higher at the University of Haifa. This document must be provided as part of the required list of documents on submitting one's application. The candidate will be provided with the enrollment kit by the department's secretary office.
2. Determining the research topic: The student must submit to the Departmental Committee of Doctoral Studies a summary of the research plan (a statement of intent) which will include presentation of the principal research question and of the research methods available to them to resolve that question, including a list of literature (see the enrollment kit).
3. Courses and seminars: During the doctoral studies, every student will be required to complete the mandatory studies at a scope of 12 semester hours, of which 2 semester hours are in a doctoral seminar. The rest of the courses will be selected from the list of courses proposed by the department in coordination with the direct instructor and according to the area of the research. In certain cases, the student may take a course in another university or a professional course with the approval of the Departmental Committee of Doctoral Studies. A student who has not taken a Scientific Writing course or has not published a study in an international journal during one of their previous degrees will be required to take the course. If necessary, the students will be required to complete complementary studies (beyond the number of semester hours required for the completion of the degree) which will be determined by the department's Departmental Committee of Doctoral Studies based on the direct instructor's recommendations, this being in accordance with the area of the research and their previous studies.
4. Mandatory participation in the departmental seminar and in the facultative seminar **for the entire duration of the student's studies**; which seminars host lecturers from other universities in Israel and abroad. The student must also participate in seminars dedicated to the defense of the theses of students from the Department of Marine Biology. The student is required to participate in 80% of the lectures.

Accompanying committee:

Based on the instructor's considerations and with the recommendation of the Doctoral Teaching Committee, each doctoral student will have an Accompanying Committee appointed for them upon

the submission of the research proposal. The Accompanying Committee will comprise at least three members:

1. One instructor or more who have given their consent to instruct the student. The instructor/s will be a faculty member of the University of Haifa who has an ordinary appointment in Track A, ranked Senior Lecturer and higher, at a scope of at least a half-time position the department.
2. An academic faculty member authorized to instruct research students, from among the serving faculty members at the University of Haifa, who is considered an expert in the doctoral thesis's area of research or in related areas.
3. An academic faculty member authorized to instruct research students, from outside the University of Haifa, who is considered an expert in the doctoral thesis's area of research or in related areas.

If it becomes necessary to appoint a person who does not meet the criteria – application may be made to the departmental committee and to the Dean of Graduate Studies to obtain their approval (Annex 1: Form of Consent to Appointment of a Member of the Accompanying Committee).

The instructor will serve as the chairman of the Accompanying Committee. Where the research student is instructed by more than one instructor, the instructors will decide among themselves which one of them will serve as the chairman of the Accompanying Committee. The committee will meet with the student at least once a year during the doctoral studies: before the submission of the research proposal, during the research and about six months before the submission of the thesis. At that meeting, the committee will decide whether the student can submit the thesis and will summarize its recommendation in writing.

The research plan:

Stage A: The first year of research, where the student is in the status of Stage-A research students. At the end of that year, the student will submit the detailed research plan (see Annex B). It is important to emphasize: whether the student was admitted at the start of the semester or over the course of the semester, they must submit the research proposal exactly one year from the start of the semester, not from the start of their studies. Once the research proposal has been submitted, and no later than at the end of the first academic year, the Departmental Committee of Doctoral Studies will appoint the Accompanying Committee for every doctoral student based on the instructor's recommendation. The research proposal will be reviewed by the Accompanying Committee and by the student's instructor, and will be approved by them. The student must undergo examination on their research proposal at the forum of the instructors and the Accompanying Committee. After the Accompanying Committee has given its approval, the student will move to the status of Stage-B research students (Annex C: Form of Adjudication of the Research Proposal).

Conducting the research and progress report:

Every doctoral student must submit to the Departmental Committee of Doctoral Studies an annual progress report certified by the instructor/s at the start of each academic year. A copy of the report will be sent to the Graduate Studies Authority and to the Accompanying Committee.

Adjudication of the thesis:

Once the research has been completed, it will be concluded in one of the following two ways:

1. An article dissertation: A student who has three or more scientific articles accepted for publication or published in professional, high-level journalism, in which they had a significant contribution both to the planning and conducting of the experiments and to their writing, may submit the thesis in this format. In general, the student's contribution to the thesis will be expressed in their being the first, or a participant equivalent to the first, on the list of authors. In special cases, the Departmental Committee of Doctoral Studies will approve a reasoned request by the instructor to incorporate a single article into the thesis, in which the student is listed as a secondary author. The articles will constitute chapters in the doctoral thesis according to the doctoral studies regulations.
2. An ordinary paper: In this case, the article will not contain over one hundred and twenty pages (not including appendices).

Annex 4: Detailed Instructions for Writing the Article. As part of the requirements for obtaining a doctoral degree, and during the adjudication process, the student must present their thesis in a lecture at the departmental seminar forum.

After the thesis has been approved for submission to be adjudicated by the entities authorized for such purpose, the doctoral thesis will be delivered to the Graduate Studies Authority for continued adjudication according to the doctoral degree regulations.

Studies in the Direct Doctoral Track:

This academic track is intended for outstanding students who wish to consecutively pursue their studies toward a doctoral degree and whom the department considers to be candidates for doctoral studies.

Principal admission requirements:

1. An average grade of at least 90 in the bachelor's degree studies from an accredited institution of higher education in Israel or abroad.
2. A statement of intent by the candidate regarding the proposed research, approved by the instructor.

The transfer to the direct track for students who are already in the master's degree program will be made at the end of the first year of the master's studies, on two conditions:

1. That the student has completed courses at a scope of at least 16 semester hours and has completed them at a weighted grade of at least 90.
2. That they have shown experimental research capabilities which meet the criteria for an outstanding research student.

Structure of the studies:



Once the research proposal has been approved and all the obligations specified for a student in the ordinary track have been met, including completion of a total of 32 semester hours and having completed all the department's mandatory courses, the student will move to the status of a Stage B doctoral student and will be subject to the academic obligations specified above (the other information regarding this track can be found in the Graduate Studies Regulations).

The Departmental Committee of Doctoral Studies

The members of the Departmental Committee of Doctoral Studies will be elected in the department's board. The committee's members will have an appointment at the university, ranked Senior Lecturer and higher in Track A. At least half of the committee member's position will be in the Department of Marine Biology. The committee will elect a chairman from among its members. The Departmental Committee of Doctoral Studies will number at least three members. The appointment of a member not compliant with these criteria requires the approval of the Dean of Graduate Studies.

