

# **The Technion Graduate School Regulations**

(Translated from the Hebrew version, as approved by the Senate of the Technion. In case the English and Hebrew versions differ, the Hebrew version applies. For the sake of convenience, the regulations are sometimes written in masculine form, but all information applies equally to both men and women.)

## **Part 1. The School's Organization**

### **11. General**

**11.01** The mission of the Technion's Graduate School is to provide qualified students a graduate level academic education. Students who satisfactorily completed a Bachelor's degree may enroll to study towards a Master's degree, and students who satisfactorily completed a Master's degree may further study towards a Doctorate (PhD) degree. Master's degree students will be allowed to transfer to the direct track towards a PhD, subjected to the conditions specified in article 24.07. In special cases, students holding a Bachelor's degree, who excelled in their studies, will be allowed to study in the special track towards a PhD.

Advanced studies not leading towards a degree, for students holding at least a Bachelor's degree, are also possible.

The Graduate School (hereafter called "The School") is led and administered by the Dean of the Graduate School (hereafter called "The Dean"), according to the school's rules and regulations, which are approved by the Senate.

The Dean is assisted by Graduate Studies Committees (Departmental and Inter-Departmental) (see article 13).

### **12. The Dean**

**12.01** The Dean of the Graduate School is responsible for Graduate Studies at the Technion.

#### **12.02 Degrees Review Committee**

The Technion's Steering Committee will appoint, according to the Dean's recommendation, six tenured faculty members to the Degrees Review Committee. The appointment is for a one year term, starting January 1<sup>st</sup>, and is extendable for one additional year. The role of the Degrees Review Committee is to recommend the Academic Assembly the awarding of Master's and Doctorate degrees to students who have fulfilled all of the School's requirements. Each case will be examined by at least

one Committee member. If the need arises, he may ask for the case to be examined by two other members.

### **13. Departmental and Inter-Departmental Committees of Graduate Studies**

#### **13.01 Departmental Committee**

##### **a. Establishment**

The Committee will be established by the Department's Council.

##### **b. Members**

The members of the committee will be appointed by the Department's Council from amongst the Department's faculty members. At the end of the term of appointment of a member of the committee, the Department's Council will appoint a new member in his place.

##### **c. The Chairperson of the Committee**

The head of the Department will (ex-officio) be the chairperson of the Committee. He may appoint one of the Department's Council members as a coordinator for graduate studies, who will act on his behalf on matters regarding graduate studies.

##### **d. The Tasks of the Departmental Committee are:**

1. Preparing study programs.
2. Preparing detailed syllabi, according to article 14.01.
3. Recommending admission or rejection of applicants and specifying the terms for admission.
4. Determining specific study programs for each student.
5. Approving research, project, or final paper topics, and recommending the appointment of advisers.
6. Monitoring the students' progress and recommending the discontinuation of studies if there is no evidence of progress.
7. Recommending the appointment of examiners for final exams and for candidacy exams, in consultation with the advisor.
8. Presenting the Dean with recommendations regarding granting scholarships and awards.

##### **e. Report**

The Committee will report to the department's Council, and will submit to the Dean and to the Department's Council a written report on its operation at least once a semester.

**f. Term of Appointment**

The term of appointment for the members of the Committee (except for the chairperson of the Committee) will be one year, and it will be extendable for additional periods with no limitation.

**13.02 Inter-Departmental Committee**

**a. Establishment**

An Inter-Departmental Committee for a specific field will be established by the Dean, according to the recommendation of the interested departments (hereafter called "the participating departments"), with the approval of the Senate (via the Standing Committee for Academic Studies).

**b. Members**

The Committee will consist of representatives of the participating departments, and of faculty members from departments which are not a part of the committee, according to the Dean's recommendation, in agreement with the heads of those departments.

The Dean will present the suggested members of the committee to the Steering Committee for approval.

Towards the end of the term of appointment of a member of an Inter-Departmental Committee, who is a representative of a participating department, the relevant department's council will recommend a new member in his place. The Dean will then present the new member to the Steering Committee for approval.

**c. The Chairperson of the Committee**

The Dean will recommend the chairperson of the committee after consulting with the heads of the participating departments and with the members of the committee. The chairperson will be a member of one of the participating departments. The Dean will present his recommendation to the Steering Committee for approval.

**d. The Tasks of the Committee**

The tasks of the Inter-Departmental Committees are identical to those of the Departmental Committees (see article 13.01(d)).

**e. Report**

The committee will submit a written report to the Dean and to the councils of the participating departments at least once a semester.

**f. Term of Appointment**

The term of appointment will be two years for the chairperson of the committee, and one year for the members of the committee, and it will be extendable for additional periods with no limitation.

**g. Disassembly**

The Dean may, with the approval of the senate (via the Standing Committee for Academic Studies), disassemble the committee and transfer the students concerned to the responsibility of other Committees as determined by the Dean.

## **14. Study and Teaching programs**

**14.01** The departments' councils will prepare detailed syllabi for the courses that they wish to teach and submit them to the Dean not later than May 1<sup>st</sup>, for courses intended for the winter semester, and not later than December 1<sup>st</sup>, for courses intended for the spring semester. Course proposals will include the name of the course, the number of frontal teaching hours and number of credit points, the syllabus, the bibliography, and the names of the instructors who will be teaching the course in the first semester in which it will be given. The Dean will examine the course proposals, and consult, if necessary, with other departments with overlapping interests. The Dean will then forward the proposals to the Standing Committee for Academic Studies for approval. The heads of the departments will notify the Dean who are the instructors in charge of teaching the approved courses not later than June 10<sup>th</sup>, for courses intended for the winter semester, and not later than January 31<sup>st</sup>, for courses intended for the spring semester.

**14.02 Course Instructors**

Instructors in charge of teaching a graduate course will have the rank of at least lecturer, or research associate, and will not be students at the Graduate School. A graduate student will not be allowed to be a teaching assistant in graduate studies (including joint-level undergraduate/graduate courses), as long as he has not accumulated all the required credits for his degree. The responsibilities of a graduate course teaching assistant will not include giving lectures, except in special cases based on explicit and argued recommendation from the head of the department, and

with the approval of the Dean and the Vice President of Academic Affairs. A graduate student who is required to take undergraduate courses will not be permitted to be a teaching assistant in undergraduate courses he is required to take.

#### **14.03 Guided Reading**

If the number of students enrolled does not justify teaching regular lectures, the instructor may teach the course in the form of guided reading, with the approval of the head of the department, who will notify the Dean accordingly.

#### **14.04 Inter-Committee Coordination**

Departments who share courses due to similar or identical content, or because the instructor and the students belong to different Graduate Committees, will coordinate the details of the course syllabi. The Dean will decide in case of disagreement.

### **15. Discipline**

**15.01** The disciplinary code, as approved by the Senate for undergraduate students, applies to graduate students as well.

## **Part 2. Studies towards a Master's Degree**

### **21 The Master's Degree**

**21.01** The degrees awarded are “Master of Science” (**MSc**) in the relevant academic field, or “Master of Science (general)”, or “Master of Engineering” (**ME**).

The degree will be awarded to a student who proved proper achievements and fulfilled the requirements as specified in the regulations, including study of courses, research, project, or final paper, according to the case (see article 24.01).

**21.02** The degree “**Master of Science in ... (the name of the program) ...**” is awarded when the studies include research work. In some departments, it is possible to carry out a project or a final paper instead, as part of the requirements for this degree.

The degree “**Master of Science**” (without specifying the name of the program) is awarded for studies in a department and a field which are substantially different from the student's undergraduate degree, and in this case, he is not required to complete the basic/core courses of the department he is studying in. The requirements for this

degree include carrying out a research, a project, or a final paper, as mentioned before.

**21.03** When studying towards a Master's degree according to a program which does not include research work and is based on course work only, the student will be awarded one of the following degrees:

**“Master of Engineering in ... (the name of the program) ...”** – in the engineering departments which approved this track.

**“Master of ... (the name of the program) ...“** – in departments which approved this track.

The updated list of the approved degrees appears in the Graduate School’s annual catalog.

**21.04** When a student is awarded a Master's degree during his studies in the direct doctoral track (see article 24.07) or in the special doctoral track (see article 36.05), the awarded degree will be a Master's degree, and the diploma will mention that it was awarded during the course of studying for the PhD degree.

**21.05 Master's degree Cum Laude and Summa cum Laude**

The Graduate School’s "achievement level threshold" for Cum Laude and Summa cum Laude Master's degree will be determined according to the distribution of the grades among all the graduates of the previous year.

Departmental Graduate Studies Committees will receive from the school a list of the students eligible for honors (Cum Laude, Summa cum Laude) and will rate them by taking into consideration further factors, such as recommendations from the members of the Examiners Board, publications, awards, teaching, courses, research area, etc., and will specify the candidates for Summa cum Laude and the candidates for Cum Laude (separately for thesis and non-thesis tracks).

The Graduate School Awards Committee will select those eligible for Summa cum Laude so that they will not exceed the top 4% of all of the graduates of that year. Those eligible for Cum Laude will be chosen so that they will not exceed 15% of the graduates in each department.

The Awards Committee may deviate from this criteria, as long as the number of students who graduate Summa cum Laude does not exceed 4% of all the graduating class, and the general number of students who graduate Cum Laude does not exceed 15% of all the graduating class (incl. Summa cum Laude).

## **22. Defining Student Categories**

### **22.01 Regular student**

A regular student is a student who met all the Master's degree admission requirements, and was admitted to the School.

### **22.02 Qualifying Student**

A qualifying student is a student who did not meet all of the requirements for admission, as defined in article 23, and hence his admission was conditioned on fulfilling some additional requirements. When a qualifying student fulfills the additional requirements, his status will become that of "Regular Student". Should a student fail to fulfill the additional requirements in the allocated time, his studies will be discontinued, unless the Dean decides to grant him an extension based on a justified recommendation by the student's Departmental Committee.

## **23. Admission**

### **23.01 Admission Requirements**

An applicant must have satisfactorily completed a Bachelor degree from the Technion, or an equivalent degree from another accredited academic institute.

### **23.02 Satisfactory Level**

- a. The admission threshold for Technion graduates is a grade point average (GPA) of at least 75. However, each department may determine its own admission threshold, which must exceed a grade of 75.
- b. In exceptional cases, the Dean, upon the Committee's recommendation, may admit a candidate whose GPA is lower than 75, if the Committee is convinced that the candidate has presented sufficient evidence that his admission is justified.
- c. Regarding students who have a GPA higher than 75, but lower than the departmental threshold, and have completed their bachelor degree at least 3 years before registration, the Committee may submit to the Dean a justified recommendation regarding the possibility of their admission.

In both cases (b. c.) the Committee will evaluate their compatibility for graduate studies considering their professional and/or scientific achievements, in any way that it sees fit (such as getting an expert opinion, conducting a personal interview, considering the student's achievements in complementary studies), and submit to the Dean a justified recommendation regarding the possibility of their admission.

### **23.03 Graduates of a Three-year Bachelor Degree**

An applicant who holds a three-year Bachelor degree, and is interested in continuing his studies towards a Master's degree in an engineering program – may be admitted as a qualifying student and be required to complete supplementary/prerequisite courses equivalent to one academic year (20 credits at least). The program and the study terms will be determined by the Committee. The student will be transferred to the status of “Regular Student” after meeting the requirements of the aforementioned courses at the level required.

An applicant who holds a three-year Bachelor degree, and is interested in studying towards a Master's degree in a non-engineering program, may be admitted as a “Regular Student”. If core courses are required (see article 24.02), he will be admitted as a "Qualifying Student" and be transferred to the status of "Regular Student" after meeting the requirements of the aforementioned courses at the level required.

The requirements for applicants to Inter-Departmental Committees will be determined by the Committee.

### **23.04 Graduate Studies for Faculty**

Faculty members from a rank of lecturer or higher, as well as those holding parallel academic ranks, such as research associates, teaching associates, adjunct teaching associates, clinical lecturers, and assistant clinical professor - employed at the Technion, who want to study for a Master's degree at the academic unit in which they teach, can do so with the approval of the Head of the academic unit and the Dean of the Graduate School.

### **23.05 Graduate Studies for Non-faculty Employees of the Technion and the Technion's Foundation for Research and Development**

Admission requests for employees of the Technion and the Technion's Foundation for Research and Development, to studies towards Master's degrees within the Graduate School, will be submitted to the Dean for approval. The Dean will consult with a Committee, whose additional members will be: the Vice President of Academic Affairs, an elected member of the Steering Committee and the head of the Human Resources Department (of the Technion or the Technion's Foundation for Research and Development, according to the case). This committee will submit its decision to the attention of the Steering Committee.

### **23.06 Registration Procedure**

- a. The applicant will submit the application forms to the Graduate School's registration office.
- b. The Dean will distribute applications of suitable candidates (applicants who fulfilled the minimal admission requirements) to the Departmental or to the Inter-Departmental Committees.
- c. The Committees will review the applications, and may summon applicants to an interview with a faculty member, an admission committee or an examination, if it sees fit.
- d. The Committees will submit to the Dean recommendations to admit applicants, along with their suggestions regarding the appointment of an advisor in charge and a research subject, a proposed study program and the duration of the studies and recommendations of rejection.
- e. Admission recommendations may include requirements to fulfill additional specific conditions, such as prerequisite courses along with deadlines for their fulfillment.

### **23.07 Dean's Decision**

The Dean will decide whether to admit an applicant, taking into consideration the Committee's recommendation, and will determine the terms of admission.

### **23.08 Re-admission**

In case the student's discontinuation of studies was due to non-disciplinary reasons, he may re-apply. The Committee may recommend to the Dean to credit the student for (all or part of) previous studies, and to re-approve the research subject. In case the student's discontinuation of studies was due to the rejection of his research work, and he re-applies and is admitted, the admission requirements will demand a new research subject and a new advisor.

In case the student's studies were discontinued due to disciplinary reasons – his re-admission will be in accordance with the ruling of the Disciplinary Court.

### **23.09 Simultaneous Studies towards Two Degrees**

A student, who wishes to study towards two degrees simultaneously, one in Graduate Studies and one in Undergraduate Studies, will submit an explained request to the Dean. The Dean will decide whether to approve the request, after receiving appropriate recommendations from the heads of the departments to which the student

has enrolled, and in coordination with the Dean of Undergraduate Studies, according to the case. The approval of the request may be stipulated by specific conditions and requirements, and will be granted for a limited duration.

## **24. MSc Degree Requirements**

### **24.01 Study Options**

The requirements for a master's degree may be met through the following options:

- a. By studying courses from the graduate studies catalog (hereafter called: “courses”), carrying out a research, submitting a research thesis and having it accepted by the examiners at the final examination.
- b. In engineering departments or other departments that were qualified for this purpose, by studying courses, carrying out a comprehensive engineering project, submitting a project thesis and having it accepted by the examiners at the final examination.
- c. In those departments where such a track has been adopted, by studying courses, preparing and submitting a final paper and having it accepted by the examiners at the final examination.
- d. In departments where a non-thesis track was approved, by course work only, as long as the program includes project courses and/or seminar courses.
- e. In the general Technion non-thesis route, by course work only.

### **24.02 Course Credit Points**

One course credit point is usually based on one lecture hour per week per semester. In the case of seminars and laboratory work – the credit will be allocated according to the Committee’s recommendation and following the approval of the Dean and the Standing Committee for Academic Studies. Supplementary or prerequisite courses will not be included in the credit point quota for Graduate Studies.

The Graduate Studies Committees will determine the number of credit points required following these rules: In those departments awarding a four-year Bachelor's degree, the number of required credit points will be between 36 - 44.

In departments or programs awarding a three-year Bachelor's degree, the number of graduate credit points required of a graduate of a three-year program will be between 50 - 55; In those departments, upon approval of the Departments' Council Board and the Graduate Studies coordinator, up to 10 credit points may be of undergraduate

level. Those undergraduate courses will usually be advanced and intended for students whose specialization is interdisciplinary. However, for graduates of a four-year program the department may reduce the number of credit points to 36.

There are also study programs towards a Master's degree that are not continuations of undergraduate studies at the Technion, in which the number of credits will be between 60 - 80.

The number of credit points from this quota which are assigned to each component of the studies will be as follows:

Research thesis:	20 credit points
Project thesis:	20 credit points
Final-paper:	12 credit points
Course work:	the remainder

The number of graduate credits required of four-year Bachelors, who study towards a "Non-thesis Master's" degree, will be a minimum of 40.

Furthermore, each Committee may determine supplementary core courses. As for graduates of three-year Bachelor degrees, the supplementary courses will amount to a minimum of 20 credits.

#### **24.03 Reduction of Course Requirements**

On the Committee's recommendation, the Dean may reduce the number of required credits if he is persuaded that the student has indeed acquired the appropriate knowledge elsewhere. The recommendation will be submitted to the Dean not later than one year following the student's admission to the school.

#### **24.04 Deadline for Choice of Option**

In those departments allowing to fulfill the requirements for a Master's degree via different options, the student will inform the Committee of his choice, out of those requiring a thesis, not later than at the end of half the duration of his studies, as approved upon his admission (see article 25.01). His choice will require the Committee's approval, and the Committee will inform the Dean of its decision.

#### **24.05 Changing of an Option**

The student may change his option upon the Committee's approval. The Committee will inform the Dean of its decision, and if needed, will recommend a prolonged or a shortened duration of studies. In exceptional cases, the Examiners Board at the final examination may suggest a change of option, after having judged the research paper and found it suitable for the requirements of an option different from the original one.

### **24.06 Degree Requirements**

In order to be awarded a Master's degree the student must:

- a. Meet the requirements of the courses that are included in his study program at a minimum GPA of 75, and with a grade of at least 65 in each course.
- b. Demonstrate the required knowledge of languages (see article 26.06).
- c. Present a seminar lecture on his work. In a research/project option the lecture will be given not later than one month prior to the date of the submission of the research paper to the School. In a final-paper option, the Committee will determine the date and the way of fulfilling this requirement. The lecture will be properly advertised at the Technion (see article 29.03).
- d. Submit a thesis on the research, the engineering project, or the final-paper (see article 29).
- e. Pass a defense examination on the thesis.

Articles C, D, E do not apply to students in the non-thesis option.

### **24.07 Change of Status from MSc to PhD Candidate**

The Dean may alter the status of an MSc student to that of a PhD candidate, provided he has shown in his studies and research work ability and achievements warranting such a course of action.

The following guidelines will be observed in such cases:

- a. The student has completed at least one full semester after the approval of his research subject. In special cases the Dean may shorten this period, based on the Committee's reasoned recommendation.
- b. The student has completed at least 50% of the required course work, on a high level (GPA of at least 90).
- c. The Committee is satisfied that his research topic is suitable for doctoral research.
- d. Regarding students who graduated Cum Laude (an average of at least 85) from a four-year Bachelor degree at the Technion, or were on the president's list in the last four semesters, as well as students who graduated Summa cum Laude (were on the president's list or its equivalent) from a three-year Bachelor degree at the Technion or at a university – the conditions which were mentioned in articles A, B, C will apply, except for the following exemptions: they may ask to transfer to the direct track after one semester, and after having completed at least one third of the required credits (but

not less than eight points). A qualifying student will also have to complete all of his supplementary courses prior to the transfer.

In such cases (clauses a-d) the Committee can recommend the transfer to the Dean. The recommendation will include a written opinion from the advisor and another recommender, as well as a concise summary of the student's work towards the Master's degree up to that point and a research plan for the Doctorate.

After the transfer was approved by the Dean, the student's status will be altered to that of a Doctoral student. The duration of his studies will be extended by eight additional semesters, and he will be required to study additional graduate points in the amount determined by the department, but at least 5 points.

The student will submit a concise description of his research proposal and will take the candidacy examination within six months of the date he was notified about the transfer to the direct track (see article 36.01). In special cases the Dean may extend this period, based on the Committee's reasoned recommendation.

After passing successfully the candidacy examination, and having completed all the courses required upon his admission to the Master's degree, the student will be eligible for a Master's diploma (see article 21.04) .

Failing the candidacy examination, his status will be altered to that of a master's student.

## **25. Duration of Studies**

### **25.01**

- a. In departments awarding four (or more) years Bachelor's degrees, the duration of studies towards the Master's degree will not exceed **eight semesters**.
- b. In departments awarding three-year Bachelor's degrees, the duration of studies towards a Master's degree, for a student who graduated from a three-year program, will not exceed **ten semesters**.
- c. In departments awarding three-year Bachelor's degrees, the above mentioned article A will apply to students who graduated from a four-year program, that is, the duration of their studies will not exceed **eight semesters**.
- d. The Dean may approve a longer duration for a student who was required to take prerequisite courses (one semester per approximately 10 prerequisite credits), or a

shorter duration for a student who started his studies in the past, dropped out, and then resumed his studies.

Approved leaves of absence will not be considered as part of the duration of studies.

#### **25.02 Discontinuation of Studies**

In case the student does not make satisfactory progress, and upon the recommendation of the advisor and the Committee, the Dean may discontinue the studies or change the terms and conditions of the study program. If the student failed to complete his studies in due time, his studies will be discontinued, unless the Committee recommends an extension and the Dean approves it. The total duration of extensions cannot exceed two years.

#### **25.03 “Statute of Limitation”**

A student whose duration of studies exceeds six years will be required by his department to study one additional course per each additional semester of his studies, after the end of the sixth year. The duration of studies, for the purpose of this regulation, will be the (calendar) time elapsed from the beginning of the first semester for which the student got credit for his courses.

The Dean may approve prolonging the abovementioned period following a justified recommendation by the Committee.

#### **25.04 Promotion or Change in position**

If during the course of his studies a student receives an academic or an administrative nomination, which in hindsight would have prevented or conditioned his admission (as described in articles 23.04, 23.05), the continuation of his studies will be subjected to the Dean’s explicit approval.

#### **25.05 Leave of Absence**

When a student is unable to continue his studies, he is required to apply for a leave of absence or a voluntary discontinuation of studies. The application is to be submitted not later than 14 days after the beginning of the semester. This application must be explained and accompanied by the recommendation of the advisor and the Committee. The Dean may grant the student one or two semesters of leave of absence, and, in exceptional cases, up to two years. If the student does not resume his studies at the end of the leave of absence, it will be regarded as if his studies have been discontinued.

### **25.06 Lack of Activity**

The Dean may discontinue the studies of an applicant who has not registered for courses and lacks an approved research subject, after consulting with the Committee.

## **26. The studies**

### **26.01 Study Program**

The student will submit to the Committee's coordinator, with the advisor's approval, a proposal for his study program, not later than the first day of each semester. Departments will make formal arrangements for that purpose, such as setting registration days. In exceptional cases, the Committee's coordinator may set early registration days, for example for courses that take place outside the Technion. The Committee may ask the student to amend his study program if it does not meet the requirements set by the Committee, or for any other reason, at the Committee's discretion. Within the first four weeks of the semester, and upon the advisor's approval, the student may notify the Committee's coordinator of cancellation of registration to a course and/or registration to an additional course.

### **26.02 Grades**

At the end of each semester instructors will submit to the Dean, and to the chairperson of the Committee, the grades given to the students enrolled in his class. The grades will be given by the instructor according to a grade scale between 0-100, a grade lower than 65 indicating failure. In certain cases it is possible to give pass/fail grades, subject to the approval of the Standing Committee for Academic Studies.

If the student did not complete the requirements for a course in that semester, the instructor may assign the grade "incomplete". In such a case, the student will be allowed to complete the requirements for that course not later than the end of the following semester. If the student did not complete the requirements by that date – he will be assigned the grade: "did not participate" which is equivalent to "0".

### **26.03 Evaluation**

At the end of each year, the student's performance so far will be evaluated by the Committee under which he studies, based on his achievements in all of the courses. If the performance is not satisfactory (GPA of at least 75), the student may improve it the following year. If the student failed to achieve a satisfactory performance level in the following year, his studies will be discontinued. If a student has a research

subject, the level of the student's progress in his research will be evaluated at the end of each semester based on the advisor's report. If his progress is not satisfactory, the student will be required to improve it the following semester. If the student does not make satisfactory progress in his research during the following semester, his studies will be discontinued. In exceptional cases the Dean may, following the advisor's and the Committee's recommendation, allow the continuation of studies even if the student failed to achieve a satisfactory level of performance so far.

#### **26.04 Failing a Course**

- a. A student who receives a grade lower than 65 or "Fail" in a graduate course, will be allowed only one opportunity to correct the failure by repeating the course and the examination. If the student fails the course the second time around – his studies will be discontinued.
- b. Based on the Committee's recommendation, the Dean may waive the requirement to correct a failure. In that case, the failure will remain on record in the student's transcript, and will be taken into account in the calculation of the student's grade average.
- c. In exceptional cases, the Committee may recommend to the Dean to omit a failure in a course from the calculation of the student's average.
- d. A student who is taking an undergraduate course or a joint level undergraduate/graduate course may take the exam in either the first or the second examinations term. A student who failed in the first term (a grade lower than 65) or wishes to improve his grade, may repeat the exam in the second term ("MOED B"). Should a student fail a course (in the first and/or the second examinations term) he will be allowed to repeat the course and the examination, but if he fails it again (in the first and/or second examinations term) – his studies will be discontinued.

#### **26.05 Transcript Remarks**

In addition to grades given by instructors, the transcript may include (in the cases that were detailed in article 26.04 A, B, C) the following remarks:

- a. "Not required to correct" – a failure which is included in the GPA but there is no requirement to correct it.
- b. "Not included in the GPA" – a failure which is not included in the GPA.
- c. "Authorized incomplete" – a missing grade for which there is no requirement to complete.

### **26.06 Language Requirements**

A Technion graduate student must demonstrate good knowledge of English.

A student who was required to, and did not pass during the first semester of studies the **Advanced English Examination**, that is, at a level which enables written expression, will be required to attend regular studies at the Technion in the appropriate course, and pass the examination at the end of the second semester. The status of a student who does not pass the examination in the above-mentioned date will become “Unsatisfactory” and the student will have the opportunity to repeat the exam at the next examinations term. Should the student fail again, his studies will be discontinued.

The Dean may, upon the student’s admission, extend the terms set for fulfilling these requirements.

#### **Exemption from the Advanced English Examination:**

A graduate of a high school or of an accredited academic institute in which the language of instruction is English, as well as an applicant whose grade in the verbal part of the GRE exam or the GMAT exam is in the 75<sup>th</sup> percentile or higher, or a PhD holder, will be exempt from the English advanced examination.

### **26.07 Course in Research Ethics**

An MSc student in the research tracks is required to pass the examination of the "Research Ethics" course, before his required research topic submission date. A student who will not pass the examination will not be permitted to submit his research topic.

## **27. Research and Project for the MSc Degree**

### **27.01 Research**

The purpose of the Master's degree research is to train the student in research methods, including critical literature surveys, carrying out a limited amount of research on a topic approved by the Committee and the writing of a thesis. The research may be theoretical or experimental, basic or applied, but must demonstrate a sound scientific and analytical approach.

The number of credit points allotted for the research thesis is 20.

### **27.02 Comprehensive Engineering Project**

The purpose of an engineering project is to train the student in engineering design methods, including critical literature surveys, carrying out a project on a topic approved by the Committee and the writing of a thesis, stressing the applied engineering approach.

The project may be a comprehensive engineering project devoted to engineering design, critical, theoretical or engineering analysis, lab or field experiments, critical survey of existing methods and literature for further understanding and updating the existing knowledge, etc.

The number of credit points allotted for the project thesis is 20.

### **27.03 Research or Project Proposal**

The student will propose to the Committee either the specific topic of his research/project, or the field in which he is interested. The Committee will recommend a suitable advisor. Upon the advisor's consent, the student will prepare an abstract of a research or project proposal under the advisor's supervision and approval, indicating the topic in both Hebrew and English, and will submit it to the Committee's approval.

The Committee's chairperson will verify that there are no special budgetary or equipment needs in carrying out the research or the project prior to approving the proposal, and will pass it on along with his recommendation to the Dean.

### **27.04 Deadline for Submission of a Research Topic**

The Committee will recommend the appointment of a permanent advisor not later than the end of the first two semesters of the studies - for a student who receives a scholarship or by the middle of the allocated study period - for a student who does not receive a scholarship. At this time, the student will submit a topic for a research or a project to be approved by the advisor and the Committee.

Regarding a student who is required to take supplementary/prerequisite courses, the period necessary for these courses will not be considered as part of the studies.

### **27.05 Appointing an Advisor**

Upon approval of the research topic, and with the Committee's recommendation, the Dean will appoint one or two advisors. If two advisors were appointed, one will be a main advisor, while the second an associate advisor. As main advisor, a faculty member who is at least a lecturer, or a research faculty member holding a PhD, may be appointed.

Based on the Committee's justified recommendation the Dean may also appoint as

main advisor a senior faculty member who is retired, or an expert holding a PhD in the field of the research (provided there is no relation to the student at his workplace). The Committee may also recommend the appointment of an advising counselor or counselors, who will assist in guiding the research. A relative of the student (as defined in Article 190 of the Academic Regulations) cannot be appointed as his advisor

#### **27.06 Advisor's Role**

The advisor is a faculty member who accompanies and guides the student during his studies, and is the liaison between the student, the Committee and the Dean in all the aspects related to the studies.

The advisor will instruct the student in research methods or engineering design and will guide him throughout the research and in preparing the research thesis. The advisor will report to the Dean and to the Committee on the student's progress.

#### **27.07 Absence or Replacement of an Advisor**

If no advisor was found, or if a research or a project topic was not submitted on time, the student's studies will be discontinued. The Dean, upon the Committee's recommendation, may permit a leave of absence for one semester, until an advisor is found.

Should an advisor resign or be unable to fulfill his duties due to an illness, absence, a sabbatical, or any other reason, the Dean will appoint a new advisor, upon the Committee's recommendation. In case the student's research topic remains the same, the former advisor's consent will be required.

#### **27.08 Change of Research or Project**

A student who wishes to modify his research/project topic, still under the supervision of his advisor, will submit to the Committee's coordinator a request with detailed explanation, along with the advisor's recommendation. A student who wishes to modify his research/project topic under the supervision of a new advisor, will submit a justified request directly to the Committee's coordinator. The Committee will discuss the requests according to the procedure described in article 27.03.

#### **27.09 Difference of Opinion**

If difference of opinion occurs between the Committee and an instructor, who wishes to be an advisor on a certain topic, the instructor may approach the Dean directly. The Dean will decide after consulting with the instructor and the Committee's chairperson.

## **28. Final paper**

**28.01** The purpose of a final paper is to summarize and consolidate the knowledge acquired by the student in his Master's studies through application of theoretical principles in solving a practical problem, a detailed analysis of a research problem and its modes of solution, including a critical survey, or alternately through solution of a limited research problem such as realization of a complex experiment as part of a research team. A final paper may be theoretical, computational, or experimental.

The number of credit points allotted for a final paper is 12.

**28.02** Submission of the final paper topic, its deadline, appointing or replacing an advisor or a counselor, changing its topic and reporting about the research progress, are according to what was described in the above mentioned articles 27.03 to 27.09, referring to a research or a project.

## **29. The Thesis and Final Examination**

### **29.01 Examiners' Board**

When a student is ready to begin writing his thesis, he will notify the advisor in writing. The advisor will forward this notice to the school along with his consent.

The advisor will propose to the Committee the board of examiners and the date at which a seminar lecture will be given by the student (see article 24.06).

The Dean will appoint, following the Committee's recommendation, an Examiners' Board consisting of three or more members, including:

- a. The advisor, who will act as the chairperson of the Board.
- b. One or two academic staff members of the rank of lecturer or higher, or a member of the research staff holding an equivalent degree.
- c. A recognized authority in the field of the thesis, who is neither a member of the same department, nor has any relation to the candidate, nor is his direct supervisor at his workplace. In exceptional cases, an adjunct instructor from the same department may serve as an examiner according to the requirements of this sub-article, conditioned upon having no relation to the candidate.
- d. It is recommended that at least one of the examiners will be of the same or a higher academic rank as the advisor/s.

e. In the case of two advisors the board will consist of at least four members, the main advisor acting as chairperson, while the associate advisor and other members will be appointed according to the articles b, c, d mentioned above.

f. Should the Dean decide to appoint an Examiners' Board of more than three members, the additional members will be appointed according to articles b, c, d mentioned above.

g. When the thesis is classified as a final paper, the Examiners' Board will consist of the advisor/s, and at least one additional expert examiner, having no relation to the student.

h. With the exception of the advisor/s, the examiners will be appointed after having expressed their consent to serve as examiners. The examiners must submit their written opinion not later than one month after receipt of the thesis/final paper for evaluation.

### **29.02 The Research Thesis**

Research thesis should include independent work, as well as:

- a. detailed explanation of the objective of the research, the project, or the final paper.
- b. A critical survey of existing methods or knowledge at the time of writing (literature survey).
- c. A description of the work and its results.
- d. Discussion and conclusion.
- e. Bibliography.

The thesis will be submitted in accordance with the rules governing thesis submission at the time of submission.

### **29.03 Submission of the Thesis**

The student may submit his thesis after:

- a. Having fulfilled the course and language requirements, according to articles 24.06(a), (b).
- b. Having given a seminar lecture, according to article 24.06(c).
- c. Having fulfilled all financial and other obligations towards the Technion, and producing appropriate evidence on this.

### **29.04 Examiners' Evaluations**

The Dean will send a copy of the thesis to each examiner. The examiners will submit their evaluations to the Dean in a letter marked “confidential – evaluation”, within a

month of receiving the thesis. The evaluation will be written according to the school's guidelines, and will include:

- a. A clear and detailed evaluation of the merits of the research, project or final paper.
- b. An explicit declaration of accepting or not accepting the thesis as partial fulfillment of the requirements towards the MSc degree.

If the examiner accepts the thesis, he will give a grade in the grade scale 0-100 (note that a passing grade is at least 65).

The Dean may cancel the appointment of an examiner who did not submit his evaluation on time, and also ignored two reminders sent to him (one week and five weeks after the deadline). In such a case, the Committee will recommend the appointment of another suitable examiner (according to article 29.01).

### **29.05 Difference of Opinion amongst the Examiners**

If one of the examiners does not accept the thesis as partial fulfillment of the requirements for the Master's degree, the Dean will ask the Committee chairperson to convene the examiners, within one month of the date of the request. An agreed-upon opinion, signed by all the examiners, will subsequently be submitted to the Dean. If the examiners are unable to reach a joint decision, each examiner will submit to the Dean his separate arguments and reasoned opinions.

The Dean, relying on the received opinions, will select one of the following options:

- a. Accept the thesis as is.
- b. Require corrections.
- c. Appoint additional examiners to the Examiners' Board.
- d. Appoint a new Examiners' Board.
- e. Require the student to re-write and re-submit the thesis.
- f. Discontinue the studies.

### **29.06 Re-submitting the Thesis**

If the Dean decided to require the student to re-submit the thesis, he will set a deadline for re-submitting, relying upon the recommendation of the examiners and the Graduate Studies Committee, but within a year of the original examination's date.

### **29.07 Holding the Final Examination**

If the Dean decided to accept the thesis as partial fulfillment of the requirements for the Master's degree based on the opinion of the examiners, the Committee's chairperson will be notified, with a copy to the advisor. A final examination should not be scheduled prior to the Dean's approval.

### **29.08 Final Examination**

The final examination is usually an oral examination. If one examiner or more were authorized by the Dean to be absent from the examination, the examination will be partly written and partly oral.

The purpose of the examination is to allow the student to add to and to explain what is written in the thesis, and for the examiners to assess the degree of the student's comprehension of the field of his research and of related subjects.

The Dean and the Committee members will be invited to the examination. The Committee's chairperson may invite to the examination additional observers from amongst the Technion's faculty. An observer may present questions to the student - after coordinating it with the Examiners' Board's chairperson.

The examiners will meet prior to the examination in order to coordinate the course of the examination.

### **29.09 Examination's Results**

Immediately after the examination, the examiners will meet alone to reach an agreed upon grade for the thesis and final examination.

If the examiners decided that the student has passed the examination, the grade given on the Master's work will be the average of the grades given by the examiners after the examination. If an examiner has a reservation regarding this computation, he may add a comment on the examination form. In such a case the Dean may determine the final grade at his discretion.

The Examiners Board may require the student to correct his thesis after the final examination. The Dean will notify the student accordingly. If the required corrections are minor, the corrected thesis should be submitted within a month of the date of the examination. If the required corrections are substantial – the corrected thesis should be submitted not later than six months after the date of the examination.

The Dean will determine, according to the recommendation of the examiners, who amongst them will be in charge of approving the corrections. Should the student fail to execute the corrections to the examiners' satisfaction within the set period, with no satisfactory reason, he will be considered as having failed the examination.

### **29.10 Difference of Opinion**

In case one or more examiners decided that the student did not pass the examination, each examiner will submit to the Dean a separate and detailed evaluation. The Dean

will determine, after having consulted with the examiners and the Committee's coordinator, whether the student passed the examination or not.

#### **29.11 Failing the Final Examination**

If the student fails the examination, he may re-take the examination within one year of the first examination. A second failure will result in the discontinuation of the studies.

#### **29.12 Intellectual Property and Publication Rights**

The intellectual property produced during the course of the research, project or final paper, will belong to the Technion, the advisor and the student, unless agreed otherwise in advance, in coordination with the School. The publication of the results of the research, project or final paper, will be subject to the approval of the advisor and the student. The publication will state the fact that the work is a result of graduate work at the Technion.

#### **29.13 Conferment of Degree**

The Master's degree will be conferred by the Academic Assembly according to the recommendation of the Dean and the Degrees Review Committee (see article 12.02), after the student has fulfilled all the study requirements and other obligations to the Technion. Within 5 working days of receiving the abovementioned recommendation, an Academic Assembly member may raise an objection to awarding the degree. In such a case, the matter will be brought to discussion in front of the Standing Committee for Academic Studies in its upcoming meeting, in the presence of the opposer. The decision of the Standing Committee for Academic Studies is final. If three Academic Assembly members or more objected to awarding the degree, the matter will be brought to discussion in the upcoming meeting of the Senate, which may uphold or alter the decision of the Committee by a majority. In special cases, the Senate empowers the Dean to confer the degree and report it to the Senate later.

The diplomas will be awarded at an annual ceremony.

## **Part 3 - Studies towards the PhD Degree**

### **31 The PhD Degree**

The degree awarded is “Doctor of Philosophy” (PhD).

### **31.01 Regular Student**

A regular student is a student who met all the PhD's degree admission requirements, and was admitted to the School.

### **31.02 Qualifying Student**

A qualifying student is a student whose admission was conditional, for example – a student who does not hold a Technion's research MSc degree, or an equivalent degree, or who does not meet all the other requirements for admission as defined in article 32 (sub-articles 32.01 to 32.04). When a qualifying student fulfills the additional requirements, his studies will be changed to the status of a “Regular Student”. Should a student fail to fulfill the additional requirements in the allocated time, his studies will be discontinued, unless the Dean decides to grant him an extension based on a justified recommendation by the student's departmental Committee.

## **32 Admission**

### **32.01 Admission Requirements**

An applicant must have satisfactorily completed an MSc degree from the Technion, or an equivalent degree from another accredited academic institute, and proven his ability to fulfill the requirements towards a PhD.

### **32.02 Satisfactory Level**

"Satisfactory level" means that the applicant achieved a grade of at least 80 in the research thesis, final examination, and courses of the Master's degree at the Technion, or an equivalent degree from another accredited academic institute.

### **32.03 Equivalent Accomplishments**

In exceptional cases, the Dean, upon the Committee's recommendation, may admit a candidate who has not met the requirements listed in articles 32.01, 32.02, if the Committee is convinced that the candidate has presented sufficient evidence that his admission is justified. Such evidence might be the candidate's professional experience and scientific or engineering accomplishments, as long as they are equivalent to accomplishments that are required in the MSc degree, in terms of knowledge and creativity.

### **32.04 Special Conditions**

The Committee may recommend admitting a candidate, who does not meet the abovementioned conditions, and propose additional requirements, such as prerequisite courses or training in research methods, and set a deadline for fulfilling these requirements satisfactorily.

If the additional requirements are many, the Dean may also postpone the deadline for submitting a research topic, until after their completion. In this case, the student will be admitted as a qualifying student, and will reach the status of “Regular Student” only after fulfilling the set requirements (see article 31.02)

### **32.05 Special Track towards the PhD**

Students who have either a 4-year or a 3-year BSc degree, and graduated Cum Laude (GPA of at least 90), or were on the President’s List during the last 4 semesters, may enroll in this option. The admission procedure is as described in clause 32.09.

### **32.06 Direct Track towards the PhD**

A Master's degree student, who excels both in his studies and in his research work, may be transferred to the status of a PhD candidate (as detailed in article 24.07)

### **32.07 Graduate Studies for Faculty**

Faculty members from a rank of senior lecturer/assistant professor or higher, as well as those holding parallel academic ranks, such as senior research associates, senior teaching associates, senior adjunct teaching associates and assistant clinical professors - employed at the Technion who want to study for a PhD degree at the academic unit in which they teach, can do so with the approval of the Head of the academic unit and the Dean of the Graduate School.

### **32.08 Graduate Studies for Non-Faculty Employees of the Technion and the Technion's Foundation for Research and Development**

Admission requests for Technion's employees, and for employees of Technion’s Foundation for Research and Development, to studies towards the PhD degree within the School, will be submitted to the Dean for approval. The Dean will consult with a Committee, whose additional members will be: the Vice President of Academic Affairs, an elected member of the Steering Committee and the head of the Human Resources Department (of the Technion or the Technion’s Foundation for Research and Development, according to the case). This committee will submit its decision to the attention of the Steering Committee.

### **32.09 Registration Procedure**

- a. The applicant will submit the application forms to the Graduate School's registration office.
- b. The Dean will distribute applications of suitable candidates (applicants who fulfilled the minimal admission requirements) to the Departmental or to the Inter-Departmental Committees.
- c. The Committees will review the applications, and may summon applicants to an interview with a faculty member, an admission committee or an examination, if it sees fit.
- d. The Committees will submit to the Dean recommendations to admit applicants, along with their suggestions regarding the appointment of an advisor in charge and a research subject, a proposed study program and the duration of the studies, and recommendations of rejection.
- e. Admission recommendations may include a requirement to fulfill additional specific conditions, such as prerequisite courses, along with deadlines for their fulfillment.

### **32.10 The Dean's decision**

The Dean will decide whether to admit an applicant, taking into consideration the Committee's recommendation, and will determine the terms of admission.

### **32.11 Re-admission**

In case the student's discontinuation of studies was due to non-disciplinary reasons, he may re-apply. The Committee may recommend to the Dean to credit the student for (all or part of) his previous studies, and to re-approve the research subject.

In case the student's discontinuation of studies was due to disciplinary reasons – his re-admission will be in accordance with the ruling of the Disciplinary Court.

## **33. Duration of Studies**

**33.01** The duration of studies towards the PhD degree will not exceed 12 semesters. Upon the Committee's recommendation, the Dean may approve a longer duration for a student who was required to take prerequisite courses (one semester per approximately 10 prerequisite credits) or a shorter duration for a student who started his studies in the past, dropped out, and then resumed his studies.

### **33.02 Full-time/Part-time Students**

The applicant will have to be a full-time student. In some justified cases, the Dean may, upon the Committee's recommendation, approve a “part-time” status, or even waive this requirement altogether.

### **33.03 Discontinuation of Studies**

In case the student does not make satisfactory progress, and upon the recommendation of the advisor and the Committee, the Dean may discontinue the studies or change the terms and conditions of the study program. If a student failed to complete his studies in due time, his studies will be discontinued, unless the Committee recommends an extension and the Dean approves it. The total duration of extensions cannot exceed two years.

### **33.04 Promotion or Change in Position**

If during the course of his studies the student receives an academic or an administrative appointment, which in hindsight would have prevented or conditioned his admission (as described in articles 32.07, 32.08), the continuation of his studies will be subjected to the Dean's approval.

### **33.05 Leave of Absence**

When a student is unable to continue his studies, he is required to apply for a leave of absence or a voluntary discontinuation of studies. The application is to be submitted not later than 14 days after the beginning of the semester. This application must be explained and accompanied by the recommendation of the advisor and the Committee. The Dean may grant the student one or two semesters of leave of absence, and, in exceptional cases, up to two years. If the student does not return to his studies at the end of the leave of absence, it will be regarded as if his studies have been discontinued.

## **34. Requirements for the PhD Degree**

### **34.01 General Requirements**

Receiving a PhD degree requires the fulfillment of the following conditions (details will follow):

- a. Meeting course requirements (see articles 34.02-34.08)
- b. Meeting language requirements (see article 34.09)
- c. Carrying out original research (see article 35)
- d. Passing a candidacy examination (see article 36)

- e. Submitting a research thesis and having it approved by the examiners (see article 37)
- f. Passing the final examination (see article 37)

#### **34.02 Course Requirements**

- a. The applicant must acquire knowledge at a satisfactory level, either via participating regularly in lectures and seminars or via supervised reading by the instructor. The Committee will determine a formal study program consisting of at least 5 academic graduate credit points. It can be a uniform program for all of its students or a special program for each student. In cases where formal course work was requested, the Committee will submit its proposal to the Dean's approval together with its recommendation to admit the applicant, or later, at the time of approving the research topic.
- b. A student in the special track towards a PhD (article 32.05), with a 4-year BSc degree, will be required to take at least 25 graduate credit points, 15 of which must be completed prior to the candidacy examination.
- c. A student in the special track towards a PhD (article 32.05), with a 3-year BSc degree, will be required to take at least 36 graduate credit points, 18 of which must be completed prior to the candidacy examination.
- d. A student whose status was changed from an MSc student to a PhD student (according to article 24.07), must complete beforehand the number of course credits required for the Master's degree. Upon the recommendation of the Committee, the Dean may require the student to pass a preliminary examination, the purpose of which is to assess the student's proficiency in the research field, prior to the candidacy examination.

Rules and details concerning the examination and its method (whether oral or written, in one part or more), will be determined by the Committee and will be submitted to the Dean for approval, along with the recommendation for admission.

The applicant may be required to take additional courses, as a result of the Examiners Board's decision at the candidacy examination.

#### **34.03 Study Program**

The student will submit to the Committee's coordinator, with the advisor's approval, a proposal for his study program, not later than the first day of each semester. Departments will make formal arrangements for that purpose, such as setting registration days. In exceptional cases, the Committee's coordinator may set early

registration days, for example for courses that take place outside the Technion. The Committee may ask the student to amend his study program if it does not meet the requirements set by the Committee, or for any other reason, at the Committee's discretion. Within the first four weeks of the semester, and upon the advisor's approval, the student may notify the Committee's coordinator of cancellation of registration to a course and/or registration to an additional course.

#### **34.04 Grades**

At the end of each semester instructors will submit to the Dean, and to the chairperson of the Committee, the grades given to the students enrolled in his class. The grades will be given by the instructor according to a grade scale between 0-100, a grade lower than 65 indicating failure. In certain cases it is possible to give pass/fail grades, subject to the approval of the Standing Committee for Academic Studies.

If the student did not complete the requirements for a course in that semester, the instructor may assign the grade "incomplete". In such a case, the student will be allowed to complete the requirements for that course not later than the end of the following semester. If the student did not complete the requirements by that date – he will be assigned the grade: "did not participate" which is equivalent to "0".

#### **34.05 Evaluation**

At the end of each year, the student's performance so far will be evaluated by the Committee under which he studies, based on his achievements in all of the courses. If the performance is not satisfactory (GPA of at least 75), the student may improve it the following year. If the student failed to achieve a satisfactory performance level in the following year, his studies will be discontinued. If a student has a research subject, the level of the student's progress in his research will be evaluated at the end of each semester based on the advisor's report. If his progress is not satisfactory, the student will be required to improve it the following semester. If the student does not make satisfactory progress in his research during the following semester, his studies will be discontinued. In exceptional cases the Dean may, following the advisor's and the Committee's recommendation, allow the continuation of studies even if the student failed to achieve a satisfactory level of performance so far.

#### **34.06 Failing a Course**

- a. A student who receives a grade lower than 65 or “Fail” in a graduate course, will be allowed only one opportunity to correct the failure by repeating the course and the examination. If the student fails the course the second time around – his studies will be discontinued.
- b. Based on the Committee’s recommendation, the Dean may waive the requirement to correct a failure. In that case, the failure will remain on record in the student’s transcript, and will be taken into account in the calculation of the student’s grade average.
- c. In exceptional cases, the Committee may recommend to the Dean to omit a failure in a course from the calculation of the student’s average.
- d. A student who is taking an undergraduate course or a joint level undergraduate/graduate course may take the exam in either the first or the second examinations term. A student who failed in the first term (a grade lower than 65) or wishes to improve his grade, may repeat the exam in the second term (“MOED B”). Should a student fail a course (in the first and/or the second examinations term) he will be allowed to repeat the course and the examination, but if he fails it again (in the first and/or second examinations term) – his studies will be discontinued.

#### **34.07 Transcript Remarks**

In addition to grades given by instructors, the transcript may include (in the cases that were detailed in article 34.06 A, B, C) the following remarks:

- a. “Not required to correct” – a failure which is included in the GPA but there is no requirement to correct it.
- b. “Not included in the GPA” – a failure which is not included in the GPA.
- c. “Authorized incomplete” – a missing grade for which there is no requirement to complete.

#### **34.08 Course in Research Ethics**

A PhD student is required to pass the examination of the "Research Ethics" course, before his required research proposal submission date. A student who will not pass the examination will not be permitted to submit his research proposal.

#### **34.09 Language Requirements**

A student must demonstrate good knowledge of English, and complete successfully a course in **scientific writing in English**.

In addition, the student may take courses in German, French, Russian or any other language according to the Committee’s recommendation.

- a. A student may attend the Scientific English course only after having passed successfully the Advanced English Examination.
- b. A student who was required to, and did not pass during the first semester of studies the **Advanced English Examination**, that is, at a level which enables written expression, will be required to attend regular studies at the Technion in the appropriate course, and pass the examination at the end of the second semester. The status of a student who does not pass the examination in the above-mentioned date will become “Unsatisfactory” and the student will have the opportunity to repeat the exam at the next examinations term. Should the student fail again, his studies will be discontinued.

The Dean may, upon the student’s admission, extend the terms set for fulfilling these requirements.

**Exemption from the Advanced English Examination:**

A graduate of a high school or of an accredited academic institute in which the language of instruction is English, as well as an applicant whose grade in the verbal part of the GRE exam or the GMAT exam is in the 75<sup>th</sup> percentile or higher, or a PhD holder, will be exempt from the English advanced examination.

## **35. Research**

### **35.01 Nature of the Research**

The research will be original, theoretical or empirical, basic or applied, and must demonstrate a sound scientific and analytical approach, under much less guidance than the Master's degree research. The applicant must prove both competence in performing research and capability to carry out a valuable original research. Initiative, imagination, depth, must be proven, as well as judgment and persistence, all of which are vital for an independent researcher. The research will be considered valuable if it is publishable in a scientific journal of international reputation, and if it advances to a great extent the knowledge and understanding in the field of the research.

### **35.02 Appointing an Advisor**

Upon the student’s admission, and with the Committee’s recommendation, the Dean will appoint one or two advisors. If two advisors were appointed, one will be a main advisor, while the second an associate advisor. As main advisor a faculty member

who is at least an senior lecturer/assistant professor may be appointed. Based on the Committee's justified recommendation the Dean may also appoint as main advisor a senior faculty member who is retired, or a faculty member who has the academic rank of lecturer, or an expert holding a PhD in the field of the research (provided there is no relation to the student in his workplace).

The Committee may recommend the appointment of an advising counselor or counselors, who will assist in guiding the research. A relative of the student (as defined in Article 190 of the Academic Regulations) cannot be appointed as his advisor.

### **35.03 Advisor's Role**

The advisor is a faculty member who accompanies and guides the student during his studies, and is the liaison between the student, the Committee and the Dean in all the aspects related to the studies.

The advisor will instruct the student in research methods and will guide him throughout the research and in preparing the research thesis. The advisor will report to the Dean and to the Committee of the student's progress.

### **35.04 Absence or Replacement of an Advisor**

Should an advisor resign or be unable to fulfill his duties due to an illness, absence, a sabbatical, or any other reason, the Dean will appoint a new advisor, upon the Committee's recommendation. In case the student's research topic remains the same, the former advisor's consent will be required.

If no advisor was found, the student will take a leave of absence, which will not exceed two semesters. If the student cannot find an advisor during this time, his studies will be discontinued.

### **35.05 Seminar Lecture**

During the last year of his studies, and not later than one month prior to date of the submission of the thesis, when the research is well advanced, the student will present a seminar lecture on his work, a public lecture that will be properly advertised at the Technion.

## **36 Candidacy examination**

### **36.01 Research Proposal**

The student will submit to the advisor a research proposal of approximately 25 pages, and the advisor will submit it to the Committee. This proposal will comprise the research topic in both Hebrew and English, and description of the research background (including a bibliographical survey) and its goals. In case of a Master's degree student who is a candidate for the direct track towards the PhD (according to article 24.07), the research proposal will also include a summary of the research performed so far. The Committee's chairperson will verify that there are no special budgetary or equipment needs in carrying out the research, prior to submitting it to the Committee. After the proposal is approved by the Committee, the chairperson will forward it to the Dean and to each of the examiners. The research proposal will then serve as basis for the candidacy examination.

### **36.02 Candidacy Examination**

The candidacy examination will take place approximately one month after the submission of the research proposal. The purpose of the candidacy examination is to examine the candidate's familiarity with the background of the research and the relevant literature and his approach to the problem, and to examine his ability and suitability for research leading to a PhD degree. The duration of the examination, its arrangement and character – whether it is to be entirely or partially oral - will be determined by the Committee.

### **36.03 Dates**

The student must submit the research proposal within 11 months of admission as a regular student, (within 18 months for a student in the special track according to article 32.05), unless a different date has been approved. If the student fails to submit the research proposal within this time limit, without having been authorized an extension, he will be regarded as having failed the candidacy examination.

### **36.04 Examiners' Board**

Upon the submission of the research proposal the chairperson of the Committee will recommend to the Committee an Examiners' Board for the candidacy examination.

The Committee will consist of at least five members, including:

- a. The advisor.
- b. The associate advisor, if one was appointed.
- c. At least four additional examiners who are academic staff members, of the rank of senior lecturer/ assistant professor or higher, or members of the research staff holding an equivalent rank, or recognized authorities in the field of the research. At least one

of these examiners should be of the same or higher academic rank as the advisor/s. At least one of these examiners will not be a member of the same academic department.

The chairperson will be appointed from amongst the Examiners' Board members by the chairperson of the Graduate Studies Committee.

In exceptional cases, upon the Graduate Studies Committee's recommendation, the Dean may approve an Examiners' Board consisting of only four examiners, as long as there are at least three examiners in addition to the advisor/s. Here too, at least one of the examiners will not belong to the same academic department.

The Committee's chairperson may invite to the examination additional observers from amongst the Technion's senior academic staff. An observer may present questions to the student - after coordinating this with the Examiners' Board chairperson. The Departmental Graduate Studies Committee chairperson will appoint the examiners after receiving the Dean's approval.

### **36.05 Examiners Report**

Immediately after the examination, the chairperson of the Examiners' Board will submit to the Dean a written report on the examination results, with a copy to the Committee's coordinator. The report will be signed by all of the examiners, and will state whether the student has passed the examination or not. If the student belongs to the special track towards the PhD (according to article 32.05) the report will specify one of the following options: A. Passing the examination. B. Recommendation to transfer the student back to the Master's degree study program, with or without a thesis. C. Failure.

The Dean may assign prerequisite courses and further course requirements to be fulfilled at a satisfactory level in areas which relate to the student's research, with deadlines for their completion, based on the recommendation of the Examiners' Board.

If there is a requirement for formal studies, the student must follow all the procedures related to the course, such as registration dates, cancellation, examination, etc.

A student in the special track who passed the examination will be eligible for a Master's degree diploma (see article 21.04) after having completed all course requirements assigned to him upon admission.

### **36.06 Failing the Candidacy Examination**

If the candidate fails the examination, he may take the examination again one to two semesters after the first examination, depending on the recommendation of the Examiners' Board and the Dean's decision.

In such a case, the candidate will submit to the advisor a new research proposal, approximately a month prior to the examination date.

In spite of the above-mentioned possibility, the Dean, upon the recommendation of the Graduate Studies Committee (based on the recommendation of the Examiners' Board) may discontinue the student's studies after failing the first examination. The Examiners' Board for the second examination will remain the same as in the first examination, unless the Dean decides to change it, depending on the Committee's justified recommendation. If the student fails the examination for the second time, or does not repeat it, his studies will be discontinued.

### **36.07 Difference of Opinion**

If there is a difference of opinion amongst the examiners regarding the results of the examination, the opinions of all examiners will be reported to the Dean, who will decide after consulting with the Graduate Studies Committee.

### **36.08 Change of Research Topic**

A student who intends to change his research topic, will submit to the Committee's coordinator a request with proper explanation and approval of the advisor. The Committee will discuss the request according to the procedure depicted in the above-mentioned article 36.01.

The student will have to take a new candidacy examination, unless the Committee has decided that the two subjects are closely related.

## **37 The Thesis and the Final examination**

### **37.01 Examiners' Board**

When a student is ready to begin writing his thesis, he will notify the advisor in writing. The advisor will forward this notice to the School along with his consent.

The advisor will propose to the Committee the board of examiners and the date at which a seminar lecture will be given by the student (see article 35.05).

The Dean will appoint, following the Committee's recommendation, an Examiners' Board consisting of three or more members, including:

- a. The advisor, who will act as the chairperson of the Board.

- b. An academic staff member of the rank of senior lecturer/assistant professor or higher, or a member of the research staff holding an equivalent rank.
- c. A recognized authority in the field of the thesis, who is neither from the Technion, nor has any relation to the candidate, nor is his direct supervisor at his workplace.
- d. It is recommended that at least one of the examiners will be of the same or a higher academic rank as the advisor/s.
- e. In the case of two advisors the board will be consisted of at least four members, the main advisor acting as chairperson, while the associate advisor and the other members will be appointed according to articles b, c, d mentioned above.
- f. Should the Dean decide to appoint an Examiners' Board of more than three members, the additional examiners will be appointed according to articles b, c, d mentioned above.
- g. With the exception of the advisor/s, the examiners will be appointed after having expressed their consent to serve as examiners. The examiners must submit their written opinion not later than two months after receipt of the thesis for evaluation.

### **37.02 The Thesis**

The thesis which the student will submit to the Dean should include:

- a. A detailed explanation of the objective of the research.
- b. A critical survey of existing methods or knowledge at the time of writing (literature survey).
- c. A description of the work and its results.
- d. Discussion and conclusion.
- e. Bibliography.

The thesis will be submitted in accordance with the rules governing thesis submission at the time of submission.

### **37.03 Submission of the Thesis**

The student may submit his thesis after:

- a. Having fulfilled the course and the language requirements, according to article 34.
- b. Having given a seminar lecture, according to article 35.05.
- c. Having fulfilled all financial and other obligations towards the Technion, and producing appropriate evidence on this.

### **37.04 Examiners' Evaluations**

The Dean will send a copy of the thesis to each examiner. The examiners will submit their evaluations to the Dean in a letter marked "confidential – evaluation", within

two months of receiving the thesis. The evaluation will be written according to the School's guidelines, and will include:

- a. A clear and detailed evaluation of the merits of the research.
- b. An explicit declaration of accepting or not accepting the thesis as a partial fulfillment of the requirements towards the PhD degree.

The Dean may cancel the appointment of an examiner who did not submit his evaluation on time, and also ignored two reminders sent to him (one week and five weeks after the deadline). In such a case, the Committee will recommend the appointment of another suitable examiner (according to article 37.01).

### **37.05 Difference of Opinion amongst the Examiners**

If one of the examiners does not accept the thesis as partial fulfillment of the requirements towards the PhD Degree, the Dean will ask the Committee's chairperson to convene the examiners, within one month of the date of the request. An agreed-upon opinion, signed by all the examiners, will subsequently be submitted to the Dean. If the examiners are unable to reach a joint decision, each examiner will submit to the Dean his separate arguments and reasoned opinions.

The Dean, relying on the received opinions, will select one of the following options:

- a. Accept the thesis as is.
- b. Require corrections.
- c. Appoint additional examiners to the Examiners' Board.
- d. Appoint a new Examiners' Board.
- e. Require the student to re-write and re-submit the thesis.
- f. Discontinue the studies.

### **37.06 Re-submitting the Thesis**

If the Dean decided to require the student to re-submit the thesis, he will set a deadline for re-submission, relying upon the recommendation of the examiners and the Graduate Studies Committee, but within a year of the original examination's date.

### **37.07 Holding the Final Examination**

If the Dean decided to accept the thesis as partial fulfillment of the requirements for the PhD degree, based on the opinion of the examiners, the Committee's chairperson will be notified, with a copy to the advisor. A final examination should not be scheduled prior to the Dean's approval.

### **37.08 Final Examination**

The final examination is usually an oral examination. If one examiner or more were authorized by the Dean to be absent from the examination, the examination will be partly written and partly oral.

The purpose of the examination is to allow the student to add to and to explain his approach to the research work and his conclusions.

The Dean and the Committee members will be invited to the examination. The Committee's chairperson may invite to the examination additional observers from amongst the Technion's faculty. An observer may present questions to the student - after coordinating it with the chairperson of the Examiners' Board.

The examiners will meet prior to the examination in order to coordinate the course of the examination.

### **37.09 Examination's Results**

Immediately after the examination, the examiners will meet alone to reach an agreed-upon recommendation whether to award the degree or not.

During this meeting each examiner may change his former evaluation of the thesis.

The Dean may be present in all of the examiners' meetings.

The Examiners' Board may require the student to correct his thesis after the final examination. The Dean will notify the student accordingly. If the required corrections are minor, the corrected thesis should be submitted within a month of the date of the examination. If the required corrections are substantial – the corrected thesis should be submitted not later than six months after the date of the examination.

The Dean will determine, according to the recommendation of the examiners, who amongst them will be in charge of approving the corrections.

Should the student fail to execute the corrections to the examiners' satisfaction within the set time-period, with no satisfactory reason, he will be considered as having failed the examination.

### **37.10 Difference of Opinion**

In case one or more examiners decided that the student did not pass the examination, each examiner will submit to the Dean a separate and detailed evaluation. The Dean will determine, after having consulted with the examiners and the Committee's coordinator, whether the student passed the examination or not.

### **37.11 Failing the Final Examination**

If a student fails the examination, he may re-take the examination within one year of the first examination. A second failure will result in the discontinuation of the studies.

### **37.12 Intellectual Property and Publication Rights**

The intellectual property produced during the course of the research, will belong to the Technion, the advisor and the student. The publication of the results of the research will be subject to the approval of the advisor and the student, unless agreed otherwise, in advance, in coordination with the School. The publication will state the fact that the work is a result of graduate work at the Technion.

### **37.13 Conferment of Degree**

The PhD will be conferred by the Academic Assembly according to the recommendation of the Dean and the Degrees Review Committee (see article 12.02), after the student has fulfilled all the study requirements and other obligations to the Technion. Within 5 working days of receiving the above mentioned recommendation, an Academic Assembly member may raise an objection to awarding the degree. In such a case, the matter will be brought to discussion in front of the Standing Committee for Academic Studies in its upcoming meeting, in the presence of the opposer. The decision of the Standing Committee for Academic Studies is final. If three Academic Assembly members or more objected to awarding the degree, the matter will be brought to discussion in the upcoming meeting of the Senate, which may uphold or alter the decision of the Committee by a majority. In special cases, the Senate empowers the Dean to confer the degree and report it to the Senate later.

The diplomas will be awarded at an annual ceremony.

## **Part 4. Studies not leading towards a degree**

### **41. Purpose of the Studies**

The purpose of this framework is to study at a Department or an Inter-Departmental program at the Technion, and to train in graduate level studies/work, under the supervision of the department's instructors, without being awarded at the end a graduate degree.

### **42. Admission**

Admission procedures are similar to the Master's degree admission procedures (as detailed in article 23).

### **43. Study Requirements**

#### **43.01 Study Program**

Upon the student's admission, the Committee will recommend a study program and also the appointment of an advisor.

The program does not have to include formal course work or research/project/final paper requirements. The student is also exempt from language requirements.

#### **43.02 Course study**

Should the student's study program include formal course requirements, he will be subjected to the rules that apply to all graduate students (such as course registration, fulfilling the course's requirements, exams, etc.). The student's achievements will appear in his transcript.

#### **43.03 Thesis**

If the study program includes formal requirements for a research, a project or a final paper, the student will be subjected to all the rules applying to all graduate students who carry out a research, a project or a final paper.

#### **43.04 Audit**

Upon the instructor's approval, a student in this framework is allowed to participate in lectures and/or exercises without being subjected to the formal course requirements, such as exams, etc. His participation will not appear in his transcript.

### **44. Duration of Studies**

The duration of studies as a full-time student, will be one or two semesters.

In exceptional cases the Dean may, upon the Committee's recommendation, authorize part-time studies or an extension of the above-mentioned duration, according to the circumstances.

### **45. Transfer to Regular Program towards the Master's or the PhD Degree**

When a student in this program asks to be transferred to either the Master's or the PhD program, he will be subjected to all the rules applying to students who study towards these degrees. Upon the Committee's recommendation, the student's courses and

research work, all or in part, will be accredited as part of the requirements for the desired degree.

#### **46. Diploma**

The student is not awarded a degree. At the end of his studies, he will receive a certificate from the Graduate School, stating the dates of his studies and his study topics. His study transcript will include the courses he has taken, as well as his research/project/final paper topic, if he had worked on one.