

# **Unit Committee Regulations on Research Students in the Faculty of Engineering**

The Unit Regulations below serve as an appendix to the University Research Students Regulations <http://www.tau.ac.il/acad-sec/phd/12-005.pdf>. (The equivalent section numbers in the University Regulations appear in parenthesis). In case of any contradiction between the Unit Regulations and the University Regulations, the University Regulations will prevail.

## **1. Introduction: Doctoral Studies in the Faculty of Engineering**

### **A. Nature of Doctorate**

Doctoral studies in the Faculty of Engineering are intended to prepare the student to become a global expert in his or her field of expertise with knowledge and the proven capability to conduct independent research work, with broad versatility in technology and science and equipped with the tools to effectively contribute to society and the economy. The research dissertation, which is the main component of the doctoral studies, will include, at the first stage, identification of the frontiers of knowledge in the field of expertise and practical criticism of what was done in the past, positing the research objectives, the formulation of an original dissertation plan and a description of the methods and means for researching these objectives, while keeping within the time frame determined in the Regulations. During the research the student will prove original thought and operational and analytical skills. The dissertation will be written in fluent scientific and grammatical language. It will summarize all aspects of the research in a practical and critical manner, emphasize the results of the research and the contribution of the research to the area of specialization. The student will also develop scientific curiosity and will expand his or her knowledge on the technical and scientific subjects associated with his or her area of specialization.

### **B. Powers of Unit Committee in the Faculty of Engineering**

According to the minutes of the meeting of the Faculty management on September 24, 2012, the Unit (Faculty) Committee operates as one unit, which is a source of authority and from which both regulatory decisions and individual decisions are issued. Its composition was determined to reflect the diverse areas of research in the Faculty. Members of the Committee will be appointed by the Dean upon the recommendation of the units.

## **2. Stage I Registration and Admission Conditions**

### **2.1 Regular Track**

- A. A person with a master's degree (M.Sc.) from a faculty of engineering is entitled to apply to the Unit Committee with a request to be admitted as a "Stage I research student" in the regular track. The final grade average in

the master's degree studies will be at least "Good" (80) and a final thesis grade of at least 85. (38).

- B. The candidate will submit to the Unit Committee secretariat the following documents:
- C. 1) The consent of a member of the academic staff with authority to supervise a research student, to serve as advisor, and also the consent of the head of the School/Department or the School/Departmental Committee to accept the student.
- D. 2) At least two letters of recommendation from members of the academic staff of the University or professionals from the industry (with a doctoral degree) who are familiar with the candidate, and at least one recommendation from the candidate's master's thesis supervisor.
- E. The holder of a master's degree as stated in section A above who did not submit a final thesis within the scope of his or her studies will be treated by the Committee as stated in section 39 of the University Research Students Regulations.
- F. A candidate holding a master's degree from a non-engineering faculty, but whose training is in a related scientific field to the academic content handled in the Faculty of Engineering units, such as exact sciences, computer sciences or life sciences and medicine, will be required to undertake with a grade of minimum 80, several courses at the recommendation of the supervisor and with the approval of the Unit Committee. The supervisor may approach the Unit Committee with a detailed letter requesting an exemption from any supplementary courses for the candidate.
- G. The final decision with regard to admission or rejection of a candidate is within the authority of the Unit Committee.

## **2.2 Direct Track**

### **2.2.1 "Regular" Direct Track**

- A. Master's students in the Faculty of Engineering who have completed at least one and not more than four semesters may apply to the Unit Committee with a request for admission to this track.
- B. The candidate will satisfy all the following conditions:
  - 1) He or she is a holder of a "University degree" who has completed his or her studies with "honors" and a grade average of at least 85

(the School/Department can make the requirement more stringent) (44) and ranked in the top 15% of his or her class.

- 2) He or she studied courses for a master's degree within a scope of at least 9 credits, with a final grade average of 90 and above, in which there was a mandatory faculty course and a mandatory departmental course.
- 3) The publication of a research paper in a scientific journal. The paper will be examined by the Committee (supervisor + one member of the academic staff to be appointed by the head of the School/Department).
- 4) Full-time student (must complete a residency within the University).

C. The candidate will submit the following documents to the secretariat:

- 1) The consent of a member of the academic staff authorized to supervise a research student, to serve as supervisor and the consent of the head of the School/Department to accept the candidate. (49)
- 2) The recommendation of the supervisor on the candidate's skills and on the suitability of the expanded research topic.

D. The School/Department Committee will discuss the application and submit its recommendation to the Unit Committee.

E. Admission to Stage I of the direct track is conditional (see section 3 B below).

#### 2.2.2 **Further Guidelines to Students who Have Studied in Accumulated Studies for a Master's Degree**

A. All the provisions of section 2.2.1 above will apply, where the duration of accumulated studies (no more than three years) will not be included within the four semesters mentioned therein.

B. A further condition for admission to the regular track is that the student was in compliance with all the requirements relating to the stage of accumulated studies in the Master's Degree Regulations.

### **3. Duration of Studies and Research**

#### **3.1 Stage I Student**

##### 3.1.1 Student Obligations

A. Regular Track:

1) Study program:

The student will complete the supplementary courses imposed on him or her and also courses of at least 6 credits out of 12 credits imposed on a research student (see section 3.2.1 A below) until the date of submission of a research proposal.

2) Duration of studies:

A) The student will submit to the Unit Committee a detailed research program signed by the supervisor within a year and a half from the date of his or her admission. In special cases, and with the approval of the Unit Committee, the research program may be submitted two years after the date of admission. (40)

B) The research proposal will be submitted in English. The Unit Committee will approve its being written in Hebrew after submission of a detailed request by the student with the supervisor's recommendation, at least three months prior to the date of submission of the proposal. (76)

C) The research proposal signed by the supervisor will be submitted pursuant to the guidelines on the Faculty of Engineering website.

B. Direct Track:

Conditions for removal of admission conditions and transition to "regular" studies status:

1) The student will complete the courses imposed on him or her in a scope of at least 24 credits out of 30 credits imposed on the student in the direct track (see section 3.2.1 A 2 below).

2) The student will submit to the Unit Committee a detailed research program signed by the supervisor within one year of the date of his or her admission to the direct track.

3.1.2 Examination of Candidacy and Admission as Stage II Research Student

A. Stage II Admission Conditions:

- 1) The student must pass the candidacy examination. The examination may be taken twice at most.
- 2) Students in the direct track – the candidacy examination will be held in the format of the qualifying examination required in the University Regulations (47).

B. Appointment of examiners for the candidacy examination:

- 1) The examiners committee will be appointed by the Unit Committee upon the recommendation of the supervisor and the School/Department Committee.
- 2) The committee will be composed of a supervisor/supervisors and at least two examiners who are members of the academic staff in institutions of higher education with authority to grant doctoral degrees and at the rank of at least senior lecturer. At least one of the additional examiners must be a member of the academic staff outside of the Faculty. Where the number of supervisors is more than one, the number of examiners that are not supervisors must be more than the number of supervisors.
- 3) An expanded examiners committee will be created for a student **in the direct track** to include a supervisor/supervisors and 4 examiners at the rank of senior lecturer and above, as set forth in section 2 above, and where 2 of them must be members of the academic staff outside of the Faculty.
- 4) The members of the committee to be selected are experts in the fields of the research topics and related topics.
- 5) In special cases an expert may be appointed (in addition to the members of the committee as mentioned above) who is not a member of the academic staff at an institution of higher education and whose expertise is likely to contribute to the task of judging.

C. Candidacy Examination:

- 1) The examination will examine the proposed research with regard to its novelty, contribution, scope and the chance of bringing it to a successful conclusion.
- 2) The student's proficiency in the research tools and relevant research methods and his or her proficiency of the research topic and topics

related to the research program will also be examined within the scope of the examination.

- 3) According to the results of the examination, one of the following decisions will be adopted: approval of the continued research work, approval of the continued research work after implementing amendments/compliance with conditions required by the examiners committee, holding a second examination or discontinuation of the research work.
- 4) A student in the direct track who did not pass the candidacy examination will have his or her studies in the direct track discontinued and the courses he or she studied within this framework will be deemed part of the master's degree studies (48).

## **3.2 Stage II Student**

### **3.2.1 Student Obligations**

#### **A. Program of Studies:**

##### **1) Regular track:**

- A) Up until the submission of the doctoral dissertation, the student will complete courses in a scope of at least 12 credits with a grade of at least 80 in each course granting credit. Where the student has failed a course, the grade will remain in effect without any credit (and will appear in any certificate of studies). Where there is no fail, the right to request not to include one course in the average grade will remain. This course will not be credited with points. (64). A doctoral degree course can entitle to no more than 3 credits.
- B) A supervisor will recommend to the student a program of studies. If necessary, the committee will obligate the student to additional courses upon the recommendation of the examiners at the candidacy examination.
- C) The student may take a "Supervised Reading" course for additional 12 credits..

##### **2) Direct Track:**

A student will complete up until the submission of the doctoral dissertation, courses in a scope of 30 credits with a grade of at least 80 in each course. Studies in a scope of 30 credits include 9 or more

credits that accumulated up until the transition to the direct track.  
(46) A course for a doctoral degree can entitle to no more than 3 credits.

B. Annual Progress Report:

- 1) A doctoral student will submit to the supervisor a progress report once a year, upon the commencement of the academic year.
- 2) The report will include details on the following: progress since the previous report, including a work plan and time frame for the objectives, progress during the research, scientific publications and active participation in scientific conferences and performance of a residency year.
- 3) The progress report will be approved by the supervisor and will bear his or her signature.
- 4) The report will be approved by a representative of the unit in which the student is studying in the Doctorate Unit Committee (68).

D. Residency Year:

A research student must reside within the University for at least one consecutive year in the period of his or her studies (a year = an academic year) (67)  
The student's research will be conducted at the University or at one of its affiliated research institutes. In special cases the Unit Committee may permit the research to be conducted at an academic institution or other recognized research institute.

A student not employed by the University will specify the performance of the residency year including dates with the supervisor's approval.

A special sub-committee operates within the framework of the University Committee for Research Students whose function is to examine and approve the performance of doctoral dissertations in lieu of employment of the student. Any request on the part of a new student wishing to perform the doctoral dissertation in lieu of his or her employment will be passed on for the approval of this committee.

E. Languages:

- 1) A research student must prove during his or her studies knowledge of Hebrew and English, as set forth below.
- 2) A research student will be obligated to pass the "technical writing – English" course.

- 3) A student without an Israeli matriculation certificate will furnish a certificate on knowledge of Hebrew to “exemption” level from the University’s Hebrew Studies Unit. In exceptional cases (such as a student coming from abroad for the purpose of research studies and intending to return after the completion of his or her studies) the committee may exempt the student from Hebrew studies. (65)

F. Thesis Seminar:

The student must give at least one lecture within the scope of a departmental seminar of the School/Department in which he or she is studying within the scope of the requirements for obtaining a degree.

The lecture will be given by the date of submission of the doctoral dissertation.

**4. Duration of Studies**

According to the University Regulations, the duration of studies for a doctoral degree is five years. A student employed by the Faculty is required to complete studies in four years (71). In the event of any deviation from the time frame at each of the stages, the student and the supervisor will submit detailed explanations why they deviated from the time frame allocated in the Regulations and will pass on a detailed time frame for the date of submission of the thesis **together with a progress report** (only Stage II research students, University Committee Guidelines (68)).

**5. Submission of Doctoral Dissertation and Judging Procedures**

**A. The Dissertation**

- 1) The doctoral dissertation will be submitted to the Unit Committee for judging after completion of all the degree obligations (courses in a scope of 12 credits, each course with a grade average of at least 80, the submission of the departmental seminar, residency year and completion of the “scientific writing in English” course obligations).
- 2) Since the supply of dissertation judges who read Hebrew is limited and according to section 76.3 of the University Regulations, the doctoral dissertation will be submitted in English, the Unit Committee will approve writing the dissertation in Hebrew after submission of a detailed request by the student with the supervisor’s recommendation at least six months prior to the date of submission of the dissertation. (76).
- 3) The student may, with the approval of the supervisor, publish part of his or her research in the course of conducting the research work.
- 4) The submission of a collection of articles: approval may be requested from the Unit Committee for the submission of a dissertation in the format of a

collection of articles, subject to the procedure appearing at <http://www.tau.ac.il/acad-sec/phd/mamar.pdf> .

The doctoral dissertation is composed of articles all to be written **in the same language**. The method of submission is subject to section 76 of the University Regulations. In the event the dissertation is submitted in English, an abstract in Hebrew will also be attached as required.

- 5) Upon completion of writing the doctoral dissertation, the student will submit to the PhD secretariat a copy of the doctoral dissertation to which will be attached an abstract of the dissertation, curriculum vitae and list of publications.

## **B. Judging the Dissertation**

- 1) Collection of articles: the judging procedures of a doctoral dissertation composed of articles will be the regular procedures (77).
- 2) The supervisor will transfer to the secretariat the following documents:
  - A) A detailed opinion to include the main findings and results, noting the student's original contribution to the dissertation. The opinion will include the supervisor's reference to the fact the dissertation was made according to the approved research program.
  - B) Recommended list of judges, including at least 8 investigators suitable to serve as judges, at the rank of at least senior lecturer, at institutions of higher education – having authority to grant a doctoral degree to their students. No judge will be proposed having close research ties to a student or a supervisor on the doctorate topic. (78)
  - C) Approval that the dissertation underwent proofreading and editing.
- 3) The Unit Committee will appoint at least two experts in the field of the research to serve together with the supervisor/s as judges of the doctoral dissertation. At least one of the experts to be appointed by the Committee will be from outside the Faculty and he or she must be from another institution of higher education having authority to grant a doctoral degree to its students. (77).
- 4) According to the University Committee Guidelines (80), no reviewers will be appointed who:

- Collaborated in research with the student, such as a joint publication, employment of the student as a research assistant during the doctoral studies, a relationship of subordination between the student and the judge within the work place (at the University or in any other institution).
  - Collaborated closely in research with a supervisor in the last five years in a field relevant to the doctorate topic, such as a joint publication, joint research grant or any joint research activity.
  - Had professional involvement at different stages of writing the research.
- 5) The reviewers appointed by the Committee will receive the abstract of the dissertation and will be requested to confirm their appointment.
  - 6) The doctoral dissertation will be sent to the reviewers.
  - 7) The Unit Committee will discuss the reviews obtained and will submit a recommendation to the University Committee to grant or not a doctoral degree.