**Department of Material Science & Engineering**

**THESIS**

• A thesis and a final project differ mainly in their scope. In both a scientific/technological problem is defined, followed by a survey of current literature, and a work plan for attaining the preset goals. After the study has been completed, its results are presented, discussed and analyzed, leading to conclusions, in compliance with the scientific standards relevant to the field of research. As a rule of thumb, a thesis takes nine full months (100%) to complete, while a project takes about 25% of the time. The thesis or project is submitted in Hebrew or English, as agreed with the supervisor. The final project track is intended for external students only (mainly students who work in industry while they study).

• The purpose of an M.Sc. thesis is training the student in methods of research, including: a critical survey of literature, conducting research of the scope customary at the Faculty, and at an appropriate academic level, and submitting an essay on the relevant topic to the Departmental Committee. The study can be either theoretical or experimental, on basic science or application-oriented, and must emphasize the analytic scientific approach and the contribution to furthering scientific understanding and/or updating existing scientific knowledge. It can also be interdisciplinary, involving collaboration between research groups from different faculties.

• When a student is admitted to the program, he is matched with an appointed temporary supervisor. When he advances to the Regular stage, he must find a permanent supervisor. A Fulltime student, who is in the Regular status right from the start, must apply for a permanent thesis supervisor as early as possible, and no later than the end of his first semester of studies.

• Work for the thesis is conducted under the permanent supervisor, for a total of 12 credit points. The supervisor is a faculty member who instructs the student throughout his research and studies, serving as the link between the student, the program's academic Coordinator, the Head of the Department, the Faculty Committees and other Faculty institutions – in all issues related to the MSc program. In the case of interdisciplinary research, a supervisor from each discipline is not required automatically, but in some cases the Head of the Department and/or Academic Coordinator do set such a requirement. The permanent thesis supervisor is a faculty member chosen from these lists [2], who has agreed to the student's request to serve as his permanent supervisor, and received the approval of the program's Academic Coordinator, as well as the Faculty's M.Sc. Committee - all this under the provisions of TAU's General M.Sc. Committee. The student must submit his application for approving a permanent supervisor, signed by the intended supervisor, to the Academic Coordinator. The application must include a brief description (up to one page) of the topic of the thesis.

• In special cases, a secondary supervisor may be appointed for an M.Sc. thesis. The secondary supervisor must have a PhD degree, and must receive the approval of the University's M.Sc Committee, based on a recommendation from the Faculty Committee. He may come from either academia or industry.

• A student who wishes to change the subject of his research, but remain under the supervision of the same supervisor, must submit a request, including a well-outlined explanation and the supervisor's recommendation, to the Program Coordinator. A student wishes to change the subject and also transfer to a new supervisor, must submit a request that includes a well-outlined explanation together with recommendations from both supervisors.

 **FINAL PROJECT**

The purpose of a final project (for 3 credit points) is training the student in methods of engineering design and/or research, including: a critical survey of literature of the scope customary at the Faculty, and at an appropriate academic level, and an essay on the relevant topic submitted to the project's supervisor. The project can be either theoretical or experimental, with a focus on either engineering design or investigation of a hypothesis, and must emphasize the analytic scientific approach and the contribution to furthering scientific understanding and/or updating existing scientific knowledge. Supervision is on a personal basis. A graduate with an MSc in the project track from the Faculty of Engineering, who wishes to go on to the PhD program, is required to meet the requirements set by the University for students with an M.Sc. from other universities, without a final project. In particular, such a student is required to complete an M.Sc. thesis, as customary at the Faculty of Engineering.

• A project supervisor may be a senior faculty member from an Israeli institution of higher education, or a suitable person from industry, who is an engineer with an M.Sc. degree. The appointment must be approved by the Academic Coordinator. When the project supervisor is not a faculty member at the Faculty of Engineering, an additional accompanying supervisor must also be appointed.

• A student may request permission to transfer from the project track to the thesis track, or vice versa, under the same supervisor. The request must be approved by the supervisor, the Academic Coordinator, and the Faculty's M.Sc. Committee. Also, a supervisor may ask the Departmental Committee, after informing the student, to reduce the scope of the work from a thesis to a final project, if the student has not shown sufficient initiative, progress or innovation in his research. When the scope is reduced to a final project, the student must complete the quota of credit points, as required in the final project track. A student in the thesis track who was admitted directly to the Regular Stage, but has not presented an approval from a permanent supervisor and a description of the topic of his thesis by the end of the first semester, will be transferred to a track without a thesis.

**Mandatory participation in seminars**

Students are required to participate in seminars on Materials Science and Engineering organized by the Department or by other academic units at Tel Aviv University. During their M.Sc. studies, students in the final project track must take part in 8 seminars, and students in the thesis track must participate in 14 seminars. Students are required to fill a seminar participation form and ask the Academic Coordinator or another faculty member present at the seminar, to sign it at the end of the seminar. Participation, as a lecturer or poster presenter, in a Materials conference of at least one day, is equal to 4 seminar hours. This credit is given only once during the student's M.Sc. studies. To receive it the student must submit an application to the Department's Seminar Coordinator, together with his permanent supervisor's recommendation, the program of the conference indicating the student's presentation, and proof of participation in the conference. A student who has completed the requirement for seminar participation will submit the record to the Students' Office, where it will be added to his personal file, as a fulfilled requirement for the degree.