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**Reply of the School of Mechanical Engineering  
to the Committee for the Evaluation of Mechanical Engineering Study Programs  
Appointed by the Council for Higher Education**

We would like to thank the Evaluation Committee members for their efforts devoted to the thorough study of our report and for evaluating the research and the educational activities of our School. Our Senior and Junior faculty as well as the representatives of the adjunct lecturers, alumni, graduate and undergraduate students, who participated in the meetings during the Committee visit on 12 June 2018, were all deeply impressed by the familiarity of the Committee members with all the aspects of our School's activities. The feedback report provided by the Committee members strongly reflects their deep understanding of the School needs and strengths, along with opportunities for improvements. We appreciate very much the detailed recommendations provided by the Committee and believe that implementation of these suggestions will help us improve our research and teaching programs, while strengthening the School's aspiration for excellence in all the aspects of its activities.

The Committee noted that the School "made significant improvements after the last review". The feedback report specifically states the high level and diversity of the research conducted by the School faculty. In response to the last review, the research activities were extended to new emerging topics such as micro and nano systems, optomechanics and biomechanics including cell mechanics. The feedback report praises well established international collaborations of the School faculty which result in joint publications and research funding. The committee mentions also that "the climate among the faculty is good." In the educational arena, the report mentions that "the ME program provides excellent and rigorous academic preparation for students to work in industry or pursue graduate studies." The Committee positively mentions extension of the undergraduate level specialization tracks to new emerging trends in ME. However, the reports points out several aspects of the administrative and educational activities where improvements are required.

In response to the Committee recommendation, the feedback report was shared with the School faculty, and necessary actions, which are required to address these recommendations, were discussed. In the area of management and administration, the Committee suggests to increase faculty involvement in decision-making. To address this point, it is possible to mention that in the framework of a re-organization process initiated by the University strategy few years ago, Schools should gain autonomy in decision-making, budget management and perhaps in the hiring and promotional procedures. While this process has not been accomplished, it has started and is expected to result in the above-mentioned reorganization. The Committee also emphasizes the importance of increasing the number of female faculty members. In this context, the University and the School see an increase of the female faculty numbers as one of their strategic goals. A new

female tenure-track faculty member was hired in 2016, two more female faculty members will join the School this year. These numbers are among six total hirings of the school in this period.

One of the main recommendations of the Committee is to establish more specific and structured vision of the School strategy in terms of the research and teaching directions and hiring policy. Specifically, the Committee recommends to identify and embrace few focused (including new emerging) areas in the field of ME and then act toward strengthening these areas through adaptation of an appropriate curriculum and hiring policy. In this context, it should be mentioned that, based on the request of the University, a five-years strategic plan was submitted to the Dean in November 2015. High-preference research areas of new hires were detailed. Specifically, it was planned to hire faculty members in the areas of theoretical solid mechanics, computational fluid mechanics, environment, petroleum engineering, smart and adaptive structures, robotics and control. The new hires of the School in the last three years were in accordance with this strategic roadmap and covered the planned areas. Moreover, we hired new faculty members in the emerging areas of bio- and cell mechanics, biomimetics and environment. In accordance with the submitted five-year program and upon the University approval, we are planning to hire at least two new faculty members in robotics, control and mechatronics the next year. These hires will help also to eliminate the exiting gap in robotics, in both research and curriculum, which was mentioned in the Committee report. To address the Committee recommendation, it was decided to conduct a series of School Council meetings starting the next academic year to establish a more crystallized vision of the School strategy and continually monitor it. One of the suggestions provided by the report is to establish an internal self-evaluation process within the School. This suggestion was already discussed by the faculty members and the School will act toward the implementation of this important recommendation. Specifically, we are planning to establish an internal committee within the School which will establish the self-evaluation process and will overview the strategic development of the School.

In the area of teaching and learning, the Committee points out that the content of the courses syllabi is minimal and can be extended. The Committee recommends also to explicitly include learning outcomes into the syllabus. Moreover, the committee recommends to adopt and embrace new teaching techniques such as “problem-based learning, active learning, or “flipped-classrooms” to enhance the student experience.” It should be mentioned that the exploration of new teaching methods is actively encouraged by the Faculty of Engineering, which established a committee to coordinate this activity. There are 20 courses within the ME curriculum, where the suggested approaches are already at least partially implemented. These include online courses combing web-based learning with hands-on projects and small-groups meeting with the teacher; design classes with a substantial time devoted to projects, and use of computational educational tools. The School is definitely moving in these directions and we believe that within few years, the teaching customs will be quite different from what we see nowadays. It should be mentioned that the syllabi and other educational materials published by the teachers in each course web tool in the beginning of the semester are usually much more detailed than the materials appearing in the Faculty website. However, it was decided to make a revision of the syllabi and to explicitly include the learning outcomes, as suggested by the committee.

We agree with the Committee conclusion that the School has too few faculty members. The Schools sees hiring of excellent new faculty members as one of the primary and the most important activities. Ten new faculty members (including three females) were hired during last five years. The school carries out an active search for prospective candidates and performs follow-up after Ph.D. graduates from other universities in Israel. As was mentioned, we are planning to hire at least two faculty members in the area of robotics and control next year. Based on the Committee suggestion, it was also decided to initiate more frequent meetings between the Head of the School and the mentors of new faculty starting in the next academic year.

One of the central observations made by the Committee, which was also emphasized in the self-evaluation report, is lack of modern educational and research space of appropriate quality. The School made significant efforts to provide appropriate laboratory space to the new faculty members. Few educational laboratories of the School were recently upgraded and new equipment was purchased. The Graduate student offices were recently renovated as well. Currently, a renovation of a new postdoctoral office space was initiated. However, as correctly pointed out by the Committee, the lack of space remains one of the central issues. We also believe that this is a common problem of all the Faculty departments, which should be solved at the faculty level.

Concerning connections with the alumni, the activities of the existing Alumni Club of the Faculty of Engineering was significantly extended during last years. In addition, Industrial Affiliation Program (IAP) established at the Faculty of Engineering manages close working relations with several tens of the leading companies in Israel. Naturally, many of the representatives of these companies are graduates of the Faculty, which furthermore strengthens the connections with the alumni.

To summarize, the preparation of the self-evaluation report, the Committee visit and the report submitted by the Committee members who are all world-renowned experts involved in the management of the top research and educational institutions, contributed to the better understanding of the strength and weakness of our School. We would like to thank the Committee members for their endeavors during the evaluation process, their in-depth vision and valuable recommendations. We are confident that the actions of the School undertaken to implement the Committee suggestions, as outlined above, will strengthen our School of Mechanical Engineering and enhance its reputation as a leading research and educational institution in the field of Mechanical Engineering.

Committee Recommendation	Steps toward implementation
Involve the entire faculty of the School to develop a clear and detailed strategic plan that can be used to enhance research and teaching.	It was decided to conduct a series of School Council meetings to establish a more structured vision of the School strategy.
Communicate this plan to the central administration at TAU and advocate for high-quality growth in the appropriate research fields.	We are planning to present the strategic plan, which will be forged by the School, to the Faculty management during the hiring round of the forthcoming academic year.
Develop and implement innovative teaching and learning methodologies	The Faculty of Engineering already established a committee to coordinate the exploration of new teaching methods. The number of courses within the ME curriculum, where the suggested approaches are already implemented, is steadily increasing. The curriculum Committee of the School is constantly overseeing the teaching programs and is working toward further extension of innovative teaching methodologies.

Develop a better overall picture of what TAU ME students can do at graduation, and how the ME curriculum builds to support its intended learning outcomes (ILOs).	It was decided to make a revision of the syllabi and to explicitly include the learning outcomes, as suggested by the committee.
Add a more structured faculty mentoring program.	It was decided to revise the mentoring program. It was decided also to initiate more frequent meetings between the Head of the School and the mentors of new faculty starting next academic year.
Determine if changes in admissions or student supervision are required to improve the undergraduate drop-out rate	The admission criteria are constantly monitored by the School representative in the Faculty Admission Committee. During last years the admission criteria were raised. Further increase of the admission criteria and admission of better prepared students is one of the strategic goals of the School. The last year an additional screening exam in mathematics was added as a requirement for the prospective students with lower high-school entry levels.
Consider implementing a periodic internal self-evaluation process.	We are planning to establish an internal committee within the School, which will establish the self-evaluation process and will overview the strategic development of the School.
Consider enhancing its connection to its alumni.	The School will continue to strengthen its ties with the alumni, mainly using the Alumni Club established by the Faculty.

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