



Committee for the Evaluation of
Industrial Engineering and Management Study Programs

Technion Israel Institute of Technology

**The William Davidson Faculty of Industrial
Engineering and Management**

Industrial Engineering and Management Programs

March 2011

Contents

Chapter 1:	Background.....	3
Chapter 2:	Committee Procedures.....	4
Chapter 3:	Evaluation of the Industrial Engineering and Management Programs at the Technion.....	5

Appendices

Appendix 1	Terms of reference of the committee
Appendix 2	Schedule of the site visit

Chapter 1-Background

The Council for Higher Education (CHE) decided to evaluate study programs in the field of Industrial Engineering and Management (IEM) during the academic year 2009-2010.

Following the decision of the CHE, the Minister of Higher Education Gideon Sa'ar, who serves ex officio as the Chairperson of the CHE, appointed a committee consisting of:

- Prof. Jane Ammons – School of Industrial & Systems Engineering, Georgia Institute of Technology, USA, and President 2009-2010, Institute of Industrial Engineers; Committee Chairperson
- Prof. Mark Daskin – Chair, Department of Industrial & Operations Engineering, University of Michigan, USA
- Prof. Barry Kantowitz – Professor, Department of Industrial & Operations Engineering and Department of Psychology, University of Michigan, USA
- Prof. Haim Mendelson – Professor, Graduate School of Business, Stanford University, USA
- Prof. Shimon Nof, Professor, School of Industrial Engineering, Purdue University, USA

Ms. Michal Kabatznik served as the primary coordinator of the committee on behalf of the Council for Higher Education and Ms. Adi Frish provided key support. Ms. Michal Neumann, Head of the Quality Assessment Unit for the Council for Higher Education, also assisted the committee.

Within the framework of its activity, the committee was requested to:

1. Examine the self-evaluation reports, which were submitted by the institutions that provide study programs in Industrial Engineering and Management, and hold on-site visits to those institutions.
2. Present CHE with final reports for the evaluated units and study programs: a separate report for each institution, including the committee's findings and recommendations, together with the response of the institutions to the reports.
3. To submit to the CHE a report regarding its opinion of the examined field of study within the Israeli system of higher education. The committee will submit a separate report to the CHE in this matter.
4. To recommend standards for the evaluated field of study.

The committee's Terms of Reference document is attached in Appendix 1.

The first stage of the quality assessment process consisted of self-evaluation by the institutions. This process was conducted in accordance with CHE Guidelines for Self-Evaluation (October, 2008).

Chapter 2-Committee Procedures

The Committee held its first meeting on March 20, 2010 during which it was charged by Professor Nachum Finger on behalf of the Council for Higher Education. The committee members received the self-evaluation reports in February 2010 and the committee conducted two-day visits to each of the institutions offering study programs in the field under examination in March and May 2010. Dr. Barry Kantowitz was unable to participate in the visits to the Technion and Ort Braude due to a previous professional commitment. During the visits, the committee met with the relevant officials within the organizational structure of each institution as well as senior and junior academic staff and students.

In accordance with the committee's request, the institution publicized in advance the agenda of the committee's upcoming visit and it invited academic staff members, administrative staff, students and alumni to meet with the committee to determine their opinions of the industrial engineering study program offered at each of the institutions. This report deals with the Industrial Engineering and Management Programs at the Technion Israel Institute of Technology. The committee's visit took place on March 21-22, 2010. The schedule of the visit, including a listing of participants representing the institution, is attached as Appendix 2.

The evaluation committee thanks the management of the institution and the William Davidson Faculty of Industrial Engineering and Management for their self-evaluation report and for their hospitality towards the committee during its visit.

This report is based upon information included in the written self-evaluation report as well as additional information gleaned during the site visit. It does not reflect any changes that took place since the site visit. All data cited in this report are from the self-evaluation document unless specified otherwise.

Chapter 3 - Evaluation of the William Davidson Faculty of Industrial Engineering and Management at the Technion

Executive Summary

The William Davidson Faculty of Industrial Engineering and Management (IEM) at the Technion offers

- two BSc programs (including the BSc in IEM with 707 students in 2008-2009) and one BA degree with a total of 838 undergraduate students,
- seven MSc research (thesis required) programs (including the MS in IEM and MS in Operations Research and Systems Analysis) and five Masters (non-thesis) programs for a total of 213 masters students (92 in IEM tracks), and
- a PhD program with six tracks to a total of 55 students (21 in IEM programs).

The faculty consists of 48 full time tenured or tenure track senior faculty members including 20 full Professors, 15 Associate Professors, nine Senior Lecturers, three Lecturers, and four Professor Emeritii who also teach, a Senior Teaching Fellow, 92 Teaching Assistants, and 64 part-time external adjuncts. There is an effective and valued core of administrative and support staff.

The IEM programs at the Technion are excellent, with outstanding faculty, dedicated staff, and very good students. There is a very high demand by prospective students for admission to IEM programs, and the IEM program graduates are in very high demand by business and industry. The faculty members are research active, they publish in the top tier journals of their subfields, and many of them hold editorial positions in a variety of journals. In some subdisciplines the international reputation of the faculty is in the top ten in the world. Through its graduates and research, this IEM program is having an important impact on the productivity and competitiveness of Israeli companies and the security and future of the nation.

The focus of the research thrust is on fundamental IEM knowledge and tools, with a strong foundational basis. This focus is also reflected in the strength and rigor of the curriculum. A concern is making sure that students connect the fundamentals with leading industry practice, and the need to continually update the curriculum to assure relevance in current applications. The faculty is strongly encouraged to implement its plans to create an external advisory board composed of industry leaders to advise on the relevance and adequacy of the program offerings.

Another key concern is unsustainable program loading, characterized by unacceptably large obligatory undergraduate class sizes, a large proportion of obligatory undergraduate courses taught by external adjunct faculty, extremely high student-faculty ratios, and the loss of critical faculty mass in specific sub-disciplines. The outstanding faculty research expectations and productivity are unsustainable given the overwhelming faculty workloads.

This is a world class IEM academic program, one that significantly impacts Israeli national competitiveness, productivity, and security, and unfortunately, a program whose quality and international reputation are threatened by its capacity overload.

Background

In 1924 the Technion began instruction with its first class of sixteen students who specialized in construction, road building and architecture. In the 1930's the institute continued to grow with the establishment of 11 laboratories and a nautical school. In 1934 the Faculty of Industrial Technology was started and soon evolved to the Faculties of Electrical Engineering, Mechanical Engineering, and Chemical Engineering. Over the years additional faculties have followed. The Technion has been recognized by the Council of Higher Education since 1962. Technion graduates have paved the way for Israel to become a high-technology "power house" in the world economy. In October 2008, the Technion student population was 12,400 of which roughly 8,700 were undergraduates and nearly 3,700 were graduate students.

The faculty of Industrial Engineering and Management at the Technion began as an independent department in 1958 and became a fully-fledged faculty in 1967. It is currently organized into seven different subject areas, each associated with its own graduate program and all of which cooperate in running the undergraduate and the MBA programs. In 2008-2009 there were a total of

- 838 total students enrolled in the three undergraduate programs
 - with, specific to this report, 707 students in Industrial Engineering and Management (IE&M)),
- 213 total students enrolled in the eight masters level programs
 - with 17 thesis-option students in Industrial Engineering (IE) ,
 - 25 thesis-option students Operations Research and Systems Analysis (ORSA),
 - 50 non-thesis option IE students, and
- 55 total students enrolled in the six doctoral programs
 - with 16 students in IE and 5 in ORSA.

In 2008-2009, 151 students earned undergraduate degrees (116 IE&M), 65 masters level (3 IE-thesis, 7 ORSA-thesis, 12 IE-non-thesis) degrees, and 14 Ph.D. degrees.

Mission and Goals

The committee was presented with the following mission statement for the William Davidson Faculty of Industrial Engineering and Management.

At the undergraduate level the Faculty strives to educate excellent engineers and economists, to provide them with a solid scientific foundation and an extensive and in-depth know-how and quantitative/engineering skills to develop and implement managerial/engineering applications, so that they will be able to occupy leadership positions in the Israeli economy today and in the future. In order to do so, the Faculty accepts only candidates who measure up to the highest standards of acceptance at the

Technion; it maintains a high standard of studies and provides students with wide-ranging and profound expertise that enables them to function in a wide range of sectors in the economy (both in the private as well as the public sector); and for the most outstanding among them – to continue studying for a higher degree. (Following this statement, detailed objectives for the various undergraduate programs were provided.)

The goal of the master's degree studies is to extend the knowledge of the student in advanced subjects in the variety of research areas offered by the Faculty, and to acquire research experience (both applied and theoretical) in these areas. At the doctorate level, the main goal is to conduct quality research (together with the additional expansion of knowledge in advanced topics in the various spheres of research found in the Faculty).

For the program under review, the following mission statement was provided.

The mission of the undergraduate IE&M program is to educate students in the design, improvement and effective operation of integrated systems, including those involving humans, equipment, and/or materials. Our approach is multi-disciplinary, integrating knowledge and skills from the exact and applied sciences, including economics and behavioral sciences. The program aims to train students:

- *To solve a wide range of problems using analytical and design tools, including model building, verification, and implementation*
- *To implement a wide knowledge in engineering, management, and computer sciences to cope with problems faced by industrial organizations*
- *To provide professional support to a wide range of manufacturing and marketing organizations*
- *To continue professional development to adapt to a changing technological and economic environment.*

The committee finds that the mission of the William Davidson Faculty of Industrial Engineering and Management at the Technion is appropriate and congruent with the institution's mission. President Lavie Peretz emphasized that the mission of the Technion is to provide the nation with technical and scientific leadership, be a top 10 research university in the world, and provide service to the country by augmenting education in high schools and preparing military personnel. Also, the industrial engineering and management programs are employing the President's strategy of interdisciplinarity and globalization. The committee found broad based support among faculty and graduate students for the Technion strategic initiative for globalization at the graduate program level, and endorses this trend. Ideas for removing the MBA program from this faculty were heard. We comment on this possibility below.

Content, Structure and Scope of the Study Program

The industrial engineering and management study program provides students with two specialization tracks including manufacturing and service engineering (MSE) and enterprise information systems (EIS). At the master degree level, thesis track programs (MSc) are offered in Industrial Engineering (IE) and Operations Research and Systems

Analysis (ORSA). A non-thesis professional masters degree (MEIE) is offered with specializations in Operations Management (OM) and Quality Assurance (QA). The Ph.D. degree program allows students to specialize in IE and ORSA among other sub-fields.

The evaluation committee found that the program and curriculum requirements are appropriate and satisfactory. Because a high percentage of the undergraduate students continue their studies with advanced degrees, there is value in the undergraduate curricular emphasis on theory and principles. The rigor of the program appears to foster and develop a sense of self-study among the undergraduate students that is distinctive.

The evaluation committee commends the recent establishment of an industrial advisory board to enhance relevance of the course offerings and encourages the faculty to continue to seek input from this group. The committee notes that the alumni to whom it spoke were mixed in their feedback on the relevance and value of the program relative to their current career needs.

The evaluation committee also encourages the faculty to consider a broader curricular inclusion of English usage, both spoken and written by instructors and students. The committee believes that this will enhance the long term career success of the program graduates.

Class sizes are extremely and unacceptably large for key undergraduate required courses. The evaluation committee was shocked to find 483 students in a section of an introductory economics class, 387 students in deterministic models in operations research, 256 students in introduction to statistics, 228 in introduction to industrial engineering, etc. For the 2008-2009 academic year, the committee counted 12 sections with over 200 students and another 18 sections with 100 to 200 students. This is a severe threat to the quality and reputation of the program.

The evaluation committee would like to encourage the department to expose students to professional networks and opportunities for IEM students. For example, there are IEM communities on Facebook, Twitter, and LinkedIn with active IEM student interactions. Additionally, students would enjoy participating in international IEM student competitions like

- The IIE/Rockwell Student Simulation Competition shown at <http://www.iienet2.org/Details.aspx?id=3382>
- The IIE Student Paper Competition shown at <http://www.iienet2.org/Details.aspx?id=863>
- The Lean Student Paper Competition shown at <http://www.iienet2.org/Details.aspx?id=4042>

The evaluation committee learned of the disruptive nature of the timing of the second and third examination periods that can result in student focus on previous semester course material during the beginning of a new semester. The students get behind in the new courses, struggle for the semester, and then the cycle repeats. There is an opportunity to examine alternative exam timing to improve the learning experience of the students and associated workload requirements for the faculty.

Teaching and Learning Outcomes

The committee was impressed by the many alternative and appropriate course formats, the variety in topics, and the many opportunities for interaction with industry. The committee also commends the department for sending students to conferences and overseas to international programs.

Some of the interviewed alumni experienced a disconnect between the first two years of basic math and science courses and the engineering content in last two years. They feel that it is important early on in the program to provide an introductory course to motivate and create a perspective on what the students will be learning in the program and why it is important. This is a universal challenge for all IE programs. One potential approach to address this challenge is to introduce more engineering course material in the first two years of the program of study.

Academic Faculty

The industrial engineering senior staff is excellent and world-class, with a superior young faculty with outstanding potential. Of the tenured and tenure-track faculty, there are 48 full time faculty, with 20 full Professors, 35 Associate Professors, nine Senior Lecturers, and three Lecturers. The distribution of rank levels among the faculty seems appropriate.

The faculty seems collegial and maintains their expertise primarily through research including international collaborations. The committee found evidence of strong interaction with researchers across the world along with nice examples of interdisciplinary activities.

“Brain drain” and competition for faculty from universities in other countries that pay higher salaries is a pressing threat. The committee was impressed with the adjunct faculty and with their expertise, experience, and level of commitment to the program. For this program, the evaluation committee feels that the student/senior faculty ratio, over 23-1, is relatively high and driven by budget constraints. Senior academic faculty teach about half of the sections of the obligatory undergraduate courses, a proportion that should be much larger.

The committee commends the high percentage of women students (about 50%) in the IEM program. Given the large percentage of women students, the evaluation committee encourages a continued focus on the recruitment of women IEM faculty.

The committee examined the capability of the faculty to adequately cover the wide diversity of subfields. In general, the faculty members are extraordinarily diverse in background, ranging from theoretical methodology to engineering applications to MBA fields. Three serious concerns were noted by the evaluation committee:

- There is a shortage of industrial engineering (IE) faculty to cover teaching needs in the IE area.

- The computer integrated autonomous systems needs to recruit faculty to support and build this area, which has a fine laboratory infrastructure but needs faculty leadership.
- The Operations Research (OR) area faculty levels are declining to the point of raising a concern that it could slip below the critical mass needed for research and advanced level courses.

The third concern has surfaced the potential innovation of OR resource sharing: the strategy of creating a “National Operations Research Collective/Coalition” to share expertise across institutions and allow graduate students to learn from the world class faculty among several Israeli universities and programs. The committee strongly encourages the exploration of this strategy and thinks that the Technion can play a major leadership role in its development.

The faculty and students can benefit from expanding and strengthening the research and teaching in the core IE area of integration with physical systems, such as high-tech (nano-, bio-, laser-based, etc.) manufacturing processing and robotics. While it will require adding faculty members, such areas can be developed jointly and enriched by effective collaboration with related faculty colleagues and labs, e.g., in Mechanical, Chemical, and Biomedical engineering, and in Chemistry and Biology.

Another core industrial engineering area which would fit well the existing faculty areas of excellence is the area of human-robot interaction and multi-robot collaboration. Again, jointly with several related faculties and labs, there are valuable extensions of OR, statistics, human factors, information and communication systems, etc. that can benefit the program and the students, both undergraduate and graduate.

Developments across the institution have led to discussion of a separate MBA program. The committee encourages the further exploration of this option given differences in the culture and structure of leading MBA and IEM programs, with a strong consideration not to deplete critical resources from this already overloaded program staff. Also, careful consideration should be given to potential negative impact on industrial engineering and management student enrollment.

As a group, the junior faculty exhibits satisfaction with the program and high morale. They seem clear on the promotion and tenure criteria and seem to like the mentoring system. While in general they like the workload assignment, the junior faculty are impacted by the large section sizes and are concerned about the Teaching Assistant tutorial load and grader impact.

Students

Student quality as measured by input characteristics is very high, and the committee was very impressed by the students with whom it met. The students exhibited serious attitudes, maturity, work ethic, and initiative. The students report that they work very hard. Senior students mentor junior students and there is a strong sense of community.

Undergraduate students would benefit from guidance on research opportunities within the profession as they prepare for next career steps, especially for the high proportion who seek advanced degrees. The evaluation committee expects further guidance to increase the number of students who proceed to graduate degrees and to increase the efficiency of their study programs.

There is an effective advising system where students access staff, faculty and more senior students. The way the university collects data makes it very difficult to track students who are falling through the cracks – those who have not been failed or have chosen to drop out, but are not actively making progress. The committee feels that there is an opportunity to enhance career guidance through the establishment of an alumni mentoring network.

The evaluation committee learned that the masters students need better initial counseling so that they would be aware that some courses are only offered every other year. This would enhance the planning of their programs of study and would help them to not miss key opportunities.

The committee strongly encourages the program's recent initiatives to reach out to its alumni students. Alumni provide excellent opportunities to develop

- An advisory board that enhances the relevance and adequacy of the IEM curricula,
- Student mentoring, and
- Funding development.

After weighing many aspects of the program, one of the most serious concerns raised by the committee is the very large undergraduate class sizes reported for many of the key required courses. The committee understands that the current budget climate has generated the pressure for larger classes, creating a dilemma that the committee feels is threatening the quality of the undergraduate program.

The committee encourages the program to address two key findings reported in the Undergraduate Student Survey of the program self-evaluation. Current budget limitations may be the reason that a large portion of the students do not feel that they can choose from a "variety of interesting course options each semester." An acute problem that the committee feels must be addressed, is that students need to receive feedback on homework to help them learn and prepare for final exams.

The committee commends the practice of partial support for each graduate student to attend one international conference during his/her course of studies. This increases the visibility of the Technion program and enhances the career development of the students. If possible, the committee would like to encourage that this offering be expanded and enhanced consistent with the Technion's globalization strategy articulated by President Peretz Lavie.

The faculty expressed a critical strategic need to recruit more top graduate students. Graduate students face uncertainty about scholarships and funding levels in future terms,

which creates stress as they strive to complete their degree programs. To enhance the recruiting of the very best graduate students in the future, the committee encourages the program to consider guaranteeing financial support to graduate students as a part of their enhanced recruitment efforts.

Organizational Structure

The Faculty is headed by a dean who is supported by two associate deans, an assistant dean, and an administrative executive. The academic members of the faculty at the rank of lecturer and above comprise the Faculty Council, which is responsible for approving all teaching programs and course syllabi, as well as electing the dean. The Graduate Committee and Undergraduate Studies Committee bring recommendations to the Faculty Council. The full professors of the Faculty compose the Faculty Preparatory Committee which handles all issues of appointment, tenure, and promotion.

Faculty and students repeatedly expressed great satisfaction and appreciation for the excellent leadership of the administration and the outstanding support provided by the professional staff. In spite of significant budget cuts and impactful staffing reductions, the morale remains high and all pull together in a service oriented “above and beyond” attitude. Since 2006 the number of students has increased 35% while the number of staff members has been substantially reduced.

Research

The program’s faculty members are research active and are publishing their results in top quality journals. In some of the subfields of the discipline, e.g. operations research, the faculty research is considered to be in the top ten in the world.

Another indicator of quality is that members of the faculty are editors and associate editors of top tier international journals. Two faculty members are winners of the prestigious Israel Prize. Additionally, faculty members have received funding for their proposals from highly competed peer reviewed programs. Also, the junior faculty members have demonstrated high potential.

To extend their scholarship impact, there is an opportunity for research efforts in the health systems engineering area to be incorporated into the BioLife Science thrust at the Technion. The committee strongly recommends such leveraging of the Industrial Engineering & Management unique competencies, which would be in line with the top IE programs in the US.

Infrastructure

The library focuses on student needs, and is a learning center where students can find resources and space to support their individual and group efforts. It stays open late and in spite of budget cuts, strives to continue to support learning activities.

The committee was impressed with the numerous laboratories and their innovations, and the way that they combine teaching and research missions. Students are also performing self-directed learning, for example, in the financial engineering laboratory through an innovative club structure.

Offices for faculty and teaching assistants seem adequate.

Internal Mechanisms for Quality Assessment

The committee was impressed with the quality of the self-evaluation and the openness and transparency provided during the onsite visit. While the committee found appropriate measures of assessment for the mastery of course material, it encourages the program to consider the development of an assessment process directed at measuring overall programmatic competencies.

All findings from the self-study need to be shared with all the faculty including adjuncts. The evaluation committee found that several were unaware that the student survey reports dissatisfaction with lack of feedback on homework assignments and key insights from faculty and student surveys.

The evaluation committee commends the surfacing of the following improvement opportunities:

- “program adaptability to marketplace needs” requires a process for improvement;
- “relatively small number of ORSA students and faculty members” that may be slipping below a critical mass;
- “continual dependence on external lecturers”; and
- “insufficient alumni interaction via organized programs.”

The committee encourages the program to continue addressing these opportunities with improvement initiatives developed in an explicit action plan based upon the insights gained from this evaluation process.

Summary

The industrial engineering and management graduates at all degree levels of the William Davidson Faculty of Industrial Engineering and Management are well prepared to enter their professions, and have high expectations of success.

The students are of very high quality and work ethic. The rigor of the program has developed a strong culture of self-learning and mentorship among the undergraduate students.

The faculty is excellent and world-class. There is a strong sense of collegiality and dedication to the program. The committee was impressed by the quality and future potential of the junior faculty.

The staff are outstanding and dedicated. In the face of ongoing budget cuts, the staff has worked hard to serve the needs of the students and the faculty.

The quality and reputation of this outstanding program with internationally renowned students and faculty is threatened by the current budget pressures. Critical issues and recommendations to address some of them include the following.

- Class sizes are extremely and unacceptably large for key undergraduate required courses. This is a severe threat to the quality and reputation of the program. The evaluation committee recommends that class sizes be capped at a reasonable size that assures student learning quality.
- External staff teaches nearly half of the undergraduate industrial engineering and management course offerings. This heavy reliance on external faculty may have a long-term detrimental impact on the quality and consistency of the students' educational preparation. The evaluation committee recommends that the senior faculty size be increased from the current level of 48 full time faculty members to at least 52 full time faculty in the next three years.
- The Technion's ability to recruit and retain elite faculty is threatened by the low salary structure relative to Israeli industry and foreign university programs.
- The size of the faculty and students of the OR program may be slipping below critical mass. The committee strongly recommends that the program explore the potential innovation of OR resource sharing by creating a "National Operations Research Collective/Coalition" to share expertise across institutions and allow graduate students to learn from the world class faculty among several Israeli universities and programs. This process should be initiated over the next 1-2 years.
- Ongoing cuts of the technical and support staff have stressed their ability to meet the needs of students and faculty. The evaluation committee recommends that these staffing levels be examined closely based on student and program needs, and increased as appropriate.

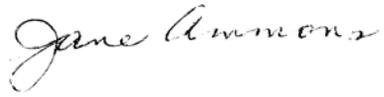
The evaluation committee encourages the faculty to continue their recent efforts to more systematically involve alumni in student mentoring activities, funding development, and the creation of an alumni advisory board that can, among other thrusts, enhance renewal of course and program relevancy.

The evaluation committee encourages the institution to explore the opportunity to increase scholarly impact by extending health systems engineering research efforts into the BioLife Science thrust at the Technion.

The Technion administration is considering the separation of the MBA program from this faculty in the next five years. This option should be studied carefully, balancing the benefits of an IEM focus against the potential detrimental impact on existing programs and faculty due to budget pressures.

Within the next year, the dean needs to work closely with the faculty and his alumni advisory board to develop an explicit action plan to address opportunities for improvement based on the insights from their recent self-evaluation and this report.

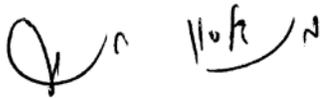
Respectfully submitted,



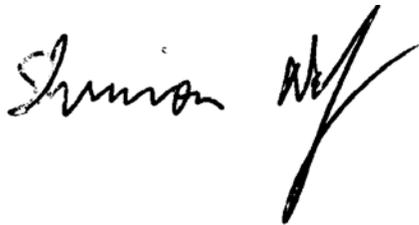
Jane Ammons



Mark Daskin



Haim Mendelson



Shimon Nof

Appendices

Appendix 1- Copy of Letter of Appointment



November 16th, 2009

שר החינוך
Minister of Education
وزير التربية والتعليم

Professor Jane Ammons
School of Industrial Systems and Engineering
Georgia Institute of Technology
USA

Dear Professor Ammons,

The State of Israel undertook an ambitious project when the Israeli Council for Higher Education (CHE) established a quality assessment and assurance system for Israeli higher education. Its stated goals are: to enhance and ensure the quality of academic studies; to provide the public with information regarding the quality of study programs in institutions of higher education throughout Israel; and to ensure the continued integration of the Israeli system of higher education in the international academic arena. Involvement of world-renowned academicians in this process is essential.

This most important initiative reaches out to scientists in the international arena in a national effort to meet the critical challenges that confront the Israeli higher educational system today. The formulation of international evaluation committees represents an opportunity to express our common sense of concern and to assess the current and future status of education in the 21st century and beyond. It also establishes a structure for an ongoing consultative process among scientists around the globe on common academic dilemmas and prospects.

I therefore deeply appreciate your willingness to join us in this crucial endeavor.

It is with great pleasure that I hereby appoint you to serve as the chair of the Council for Higher Education's Committee for the Evaluation of Industrial Engineering and Management studies.

The composition of the Committee will be as follows: Prof. Jane Ammons - Chair, Prof. Mark Daskin, Prof. Barry Kantowitz, Prof. Haim Mendelson, and Prof. Shimon Nof.

Ms. Michal Kabatznik will coordinate the Committee's activities.

In your capacity as the chair of the Evaluation Committee, you will be requested to function in accordance with the enclosed appendix.

I wish you much success in your role as a member of this most important committee.

Sincerely,

Gideon Sa'ar
Gideon Sa'ar

Minister of Education,
Chairperson, The Council for Higher Education

Enclosures: Appendix to the Appointment Letter of Evaluation Committees

cc: Ms. Riki Mendelzvaig, Secretary of the Council for Higher Education
Ms. Michal Neumann, Head of the Quality Assessment Unit
Ms. Michal Kabatznik, Committee Coordinator

רח' שבטי ישראל 34 ירושלים מיקוד 91911 • טל' 02-5602330 • פקס 02-5602246
34 Shivtei Israel St' 91911 Jerusalem. Tel. 02-5602330. Fax 02-5602246
شارع شبطي يسرائيل 34 . اورشليم القدس 91911 . هاتف 02-5602330 فاكس 02-5602246
כתובת אתר ממשל זמין: <http://gov.il>
כתובת אתר המשרד: <http://www.education.gov.il>

Appendix 2- Site Visit Schedule

Technion – Israel Institute of Technology
**The William Davidson Faculty of
 Industrial Engineering & Management**
 Professor Boaz Golany, Dean
 The Samuel Gorney Chair in Engineering

הטכניון – מכון טכנולוגי לישראל
 הפקולטה להנדסת תעשייה וניהול
 ע"ש ויליאם דוידסון
 פרופסור בועז גולני, דיקן
 הקתדרה להנדסה ע"ש שמואל גורני

**THE TECHNION
 FACULTY OF INDUSTRIAL ENGINEERING
 AND MANAGEMENT
 March 21st-22nd, 2010 - Schedule of Site Visit
 Room 526, Bloomfield Building**

DAY 1: Sunday March 21st

09:00-11:00	Closed Door Working Meeting of the Committee		
11:00-11:45	Opening session with the heads of the institution and the senior staff member appointed to deal with quality assessment	President: Lavie Peretz	
		Senior Executive Vice president: Prof. Paul D. Feigin	
		Deputy Senior Vice President: Prof. Moshe Sheintuch	
		Dean of the Graduate School: Prof. Moshe Shpitalni	
		Dean of Undergraduate Studies: Prof. Yaacov Maman	
		Dean: Prof. Boaz Golany	
11:45-12:30	Meeting with the Heads of the Faculty of Industrial Engineering and Management	Dean: Prof. Boaz Golany	
		Assoc. Prof. Yale Herer	
		Prof. Ido Erev	
		Assoc. Prof. Avigdor Gal	

The William Davidson Faculty of
 Industrial Engineering & Management
 Technion City, Haifa 32000, Isreal
 Telephone: (04) 829-4444 Fax: (04) 829-5676 E-mail: iedean@ie.technion.ac.il

הפקולטה להנדסת תעשייה וניהול
 ע"ש ויליאם דוידסון
 קריית הטכניון, חיפה 32000, ישראל
 E-mail: iedean@ie.technion.ac.il

Technion – Israel Institute of Technology
**The William Davidson Faculty of
 Industrial Engineering & Management**
Professor Boaz Golany, Dean
 The Samuel Gorney Chair in Engineering

הטכניון – מכון טכנולוגי לישראל
הפקולטה להנדסת תעשייה וניהול
ע"ש ויליאם דוידסון
פרופסור בועז גולני, דיקן
 הקתדרה להנדסה ע"ש שמואל גורני

		Prof. Avishai Mandelbaum	
12:30-13:15	Meeting with representatives of relevant faculty committees *	Prof. Miriam Erez: Strategic Faculty Development Committee	We leave the decision up to the institution as to which committees to invite.
		Assoc. Prof. Ofer Strichman: Curriculum Committee	
		Assoc. Prof. Leonid Mytnik: Student Affairs Committee	
		Prof. Dima Ioffe: Graduate Studies Committee	
13:15-14:00	Lunch		
14:00-14:45	Meeting with Senior Academic Faculty*	Dean: Prof. Boaz Golany	
		Vice-Dean: Assoc. Prof. Avigdor Gal	
		Prof. Avraham Shtub	
		Prof. Aharon Ben-Tal	
		Assoc. Prof. Carmel Domshlak	
		Prof. Uriel Rothbloom	
		Assoc. Prof. Michal Penn	
		Prof. Danny Gopher	
14:45-16:00	Tour of campus (Including classes, library, offices of faculty members, labs etc.)	Assoc. Prof. Avigdor Gal Mrs. Vered Behar	
16:00-16:30	Closed-door working meeting of the evaluation committee		

The William Davidson Faculty of
 Industrial Engineering & Management
 Technion City, Haifa 32000, Isreal
 Telephone: (04) 829-4444 Fax: (04) 829-5676 E-mail: iedean@ie.technion.ac.il

הפקולטה להנדסת תעשייה וניהול
 ע"ש ויליאם דוידסון
 קריית הטכניון, חיפה 32000, ישראל

Technion – Israel Institute of Technology
**The William Davidson Faculty of
 Industrial Engineering & Management**
 Professor Boaz Golany, Dean
 The Samuel Gorney Chair in Engineering

הטכניון – מכון טכנולוגי לישראל
 הפקולטה להנדסת תעשייה וניהול
 ע"ש ויליאם דוידסון
 פרופסור בועז גולני, דיקן
 הקתדרה להנדסה ע"ש שמואל גורני

DAY 2: Monday March 22nd, 2010

Time	Subject	Participants	Room/Location
09:30-10:15	Meeting with Junior academic faculty*	Dr. Eldad Yechiam	
		Dr. Ron Lavi	
		Dr. Oren Kurland	
		Dr. Amir Beck	
10:15-11:30	Meeting with adjunct lecturers*	Prof. Benjamin Landkof	
		Dr. Opher Baron	
		CPA Itamar Cohavi	
		Dr. Yair Lifshitz	
		Dr. Jacqueline Asscher	
		Mr. Yoel Horev	
11:30-12:15	Meeting with B.A. students***	Nancy yacovzada	
		Liel Lazar	
		Miri Breiman,	
		Dana Furman,	
		Ofri Rom,	
		Naor Gutman	
12:15-13:00	Meeting with M.A. students***	Alex Spikovsky	
		Zied Itamar	
		Yanir Cohen	
		Michal Rozenbliet	
		Eyal Nueman	
13:00-13:45	Meeting with PhD students***	Josef Avrahami	
		Ilana Ben David	
		Galit Yom Tov	
		Yael Doitch	
		Uri Yuval	
13:45-14:30	Lunch		
13:45-14:30	Meeting with Alumni***	Pnina Sofer Tomer Sagi Itay Shifris Tomer Tziter Sharon Tal Garin	

The William Davidson Faculty of
 Industrial Engineering & Management
 Technion City, Haifa 32000, Isreal

הפקולטה להנדסת תעשייה וניהול
 ע"ש ויליאם דוידסון
 קריית הטכניון, חיפה 32000, ישראל
 Telephone: (04) 829-4444 Fax: (04) 829-5676 E-mail: iedean@ie.technion.ac.il

Technion – Israel Institute of Technology
**The William Davidson Faculty of
 Industrial Engineering & Management**
Professor Boaz Golany, Dean
 The Samuel Gorney Chair in Engineering

הטכניון – מכון טכנולוגי לישראל
הפקולטה להנדסת תעשייה וניהול
ע"ש ויליאם דוידסון
פרופסור בועז גולני, דיקן
 הקתדרה להנדסה ע"ש שמואל גורני

		Alex Groisman Stern Shimrit	
14:30-15:30	Presentation of Student Projects	Industrial Engineering Project Y. Kumar	
		Enterprise Information Systems Engineering Project Y.Golany, M.Breiman	
15:30-16:00	Closed Door Working Meeting of the Committee		
16:00-16:30	Summation meeting with heads of the institution, Head of Faculty of Industrial Engineering	President: Lavie Peretz	
		Senior Executive Vice president: Prof. Paul D. Feigin	
		Deputy Senior Vice President: Prof. Moshe Sheintuch	
		Dean of Undergraduate Studies: Prof. Yaacov Maman	
		Dean of the Graduate School: Prof. Moshe Shpitalni	
		Dean: Prof. Boaz Golany	

* The heads of the institution and academic unit or their representatives will not attend these meetings.

** Please make sure that these are different students than those meeting with the committee the next day.

*** The visit will be conducted in English with the exception of students who may speak in Hebrew and anyone else who feels unable to converse in English.

The William Davidson Faculty of
 Industrial Engineering & Management
 Technion City, Haifa 32000, Isreal
 Telephone: (04) 829-4444 Fax: (04) 829-5676 E-mail: iedean@ie.technion.ac.il

הפקולטה להנדסת תעשייה וניהול
 ע"ש ויליאם דוידסון
 קריית הטכניון, חיפה 32000, ישראל

E-mail: iedean@ie.technion.ac.il