



**Committee for the Evaluation of Electrical and Communication System
Engineering
Study Programs**

**The Azrieli - College of Engineering Jerusalem
Programs in Electrical and Electronics Engineering
Evaluation Report**

November 2016

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Chapter 1: Background

The Council for Higher Education (CHE) decided to evaluate study programs in the field of Electrical and Communication System Engineering during the academic year of 2016.

Following the decision of the CHE, the Minister of Education, who serves ex officio as Chairperson of the CHE, appointed a Committee consisting of:

- **Prof. Alan Oppenheim**- Department of Electrical Engineering and Computer Science – MIT, USA. Committee Chair.
- **Prof. Susan Conry** –Wallace H. Coulter School of Engineering Electrical & Computer Engineering - Clarkson University, USA.
- **Prof. Roch Guerin**- Department Chair and Professor of Computer Science & engineering Department- Washington University in St. Louis, USA.
- **Prof. Ehud Heyman**- School of Electrical Engineering - Department of Physical Electronics- Tel Aviv University, Israel.
- **Prof. Eby G. Friedman**-Electrical and Computer Engineering, Department of Electrical and Computer Engineering- University of Rochester, USA.
- **Prof. Mathukumalli Vidyasagar** - Chair in Systems Biology Science Erik Jonsson School of Engineering & Computer Science - The University of Texas at Dallas, USA.
- **Dr. Orly Yadid-Pecht** - iCORE/ATIF Strategic Chair in Integrated Sensors/Intelligent Systems, Professor and Lab Director - University of Calgary, Canada.
- **Prof. Dr.-Ing. Walter Kellermann**- Chair of Multimedia Communications and Signal Processing- University Erlangen-Nuremberg, Germany.

Ms. Daniella Sandler and Ms. Inbal Haskell-Gordon served as the Coordinators of the Committee on behalf of the CHE.

Within the framework of its activity, the Committee was requested to:¹

1. Examine the self-evaluation reports, submitted by the institutions that provide study programs in Electrical and Communication System Engineering, and to conduct on-site visits at those institutions.
2. Submit to the CHE an individual report on each of the evaluated academic units and study programs, including the Committee's findings and recommendations.
3. Submit to the CHE a general report regarding the examined field of study within the Israeli system of higher education including recommendations for standards in the evaluated field of study.

The entire process was conducted in accordance with the CHE's Guidelines for Self-Evaluation (of September 2013)

¹ The Committee's letter of appointment is attached as **Appendix 1**.

Chapter 2: Committee Procedures

The Committee held its first meeting on January 6, 2016, during which it discussed fundamental issues concerning higher education in Israel, the quality assessment activity, as well as Electrical and Communication System Engineering Study programs in Israel.

In January 2016, the Committee held its visits of evaluation to 12 programs: Tel-Aviv University, the Technion, Bar-Ilan University, Ben-Gurion University, Shamoon College of Engineering, Ruppin Academic Center, Azrieli - College of Engineering Jerusalem, Lev Academic center, Ort Barude College, Holon Institute of Technology, Ariel University and Afeka College of Engineering. During the visits, the Committee met with various stakeholders at the institutions, including management, faculty, staff, and students.

This report deals with the programs of Electrical and Electronics Engineering Administration at the Azrieli – College of Engineering Jerusalem. The Committee's visit to the University took place on January 10, 2016.

The schedule of the visit is attached as **Appendix 2**.

The Committee thanks the management of the Azrieli – College of Engineering Jerusalem and the Department of Electrical and Electronics Engineering for their self-evaluation report and for their hospitality towards the committee during its visit at the institution.

Chapter 3: Evaluation of Electrical and Electronics Engineering Study Programs at Azrieli - College of Engineering Jerusalem JCE

This Report relates to the situation current at the time of the visit to the institution, and does not take account of any subsequent changes. The Report records the conclusions reached by the Evaluation Committee based on the documentation provided by the institution, information gained through interviews, discussion and observation as well as other information available to the Committee.

1. Executive Summary

Azrieli² - College of Engineering Jerusalem (JCE) was established for and with a key mission to serve the Jerusalem area in training engineers for the high tech industry, as well as to attract industry to the area. These are significant goals and it is important that they be achieved. So far Azrieli falls short in achieving these goals and there is a clear mismatch between the curriculum design including the specialization tracks and the availability of high tech industry in the area. Given the limited resources and faculty size, concentrating on areas of strong interest to industry and expanding tracks in partnership with high tech growth in the region is necessary. This is best accomplished by incorporating advice from industry in curriculum and track design so that high tech sees a motivation to establish a presence in the area, consequently making it easier for graduates to find jobs. In that respect, efficiently utilizing resources to focus on tracks most desirable to industry in the context of establishing a local presence is important. It is also important that the Azrieli administration have a clear sense of this mission. While faculty promotions put considerable emphasis on the research publication record, we do not see this as a key component for accomplishing the mission. More essential is hands on experience in labs, projects and industrial involvement. Teaching both in the classroom and in projects and labs are much more essential contributors to the goal of training engineers for positions in high tech. We also see it as important that the evening program be re-introduced and in a way that works in harmony with the regular program so that the broadest elements of the community can be served.

² This report uses Azrieli and JCE interchangeably.

2. Mission and Goals

Azrieli - College of Engineering Jerusalem (JCE) was founded 6 years ago to meet the needs of the Jerusalem population. More specifically to provide engineering education to the general population in Jerusalem, and to help attract high-tech industry to the area. The mission as stated in the self-evaluation report is: “to train students to become first-rate electrical and electronics engineers with deep familiarity in the areas of electronics, microelectronics and communication engineering. We aim to turn our students into high-quality, well-prepared candidates for the Israeli high-tech industry, especially in Jerusalem, and for graduate studies in engineering and the sciences.”

Specific goals stated in the self-evaluation report include:

Educating first-rate engineers, both in terms of academic standards and standards of practical proficiency, to meet present and anticipated needs of high-tech industry.

Strengthening Jerusalem's economy and the Israeli economy in general.

Helping reverse the trend of migration out of Jerusalem.

The self-evaluation report goes on to say that “From the present self-evaluation report it emerges that the department is achieving its mission.”

Observations and findings

Fulfilling the mission: Based on this visit, it is our observation that while the conclusion that the college fulfills its mission is partially true, it is overly optimistic. It is indisputable that most of the students (about 85%) are coming from the Jerusalem area. In that sense, the college is succeeding in serving the Jerusalem community; a part of its mission that is essential to the community. However, the goal of strengthening Jerusalem's economy by training well-prepared engineers that are successfully employed in the local high-tech industry does not seem to be realized. Specifically, while students graduating from the college are prepared and trained to serve as electrical and electronic engineers in the Israeli high-tech industry, finding jobs commensurate with their skills in the Jerusalem area is challenging. This was evident in discussions with students and alumni alike. In some cases, students reported having to take jobs with little connection to their engineering skills, *e.g.*, working as laborers or in other low-level

service positions. Several students reported that they are still on the job market several months after graduation. Students overwhelmingly characterized the Jerusalem high-tech job market as difficult, and even those who managed to land an engineering job were often employed in positions below their skill levels, *e.g.*, quality assurance (QA). Somewhat more worrisome, although mostly anecdotal, were reports of students experiencing difficulties in finding a job even when willing to relocate outside the Jerusalem region. This may be in part due to the relatively low visibility of the college outside the Jerusalem region on which it focuses. This may be an explanation for the consistent decrease in the number of applicants from 147 in 2009 to 69 in 2013, and consequently in the number of starting students from 85 in 2009 to 34 in 2013 (Table 4.1.3 on page 53).

Dropout rate: The continuing very high dropout rate (40%) remains a major concern in the context of the college's ability to fulfill its mission to offer an engineering education in Jerusalem. It should be noted though that this dropout rate is similar to that in other colleges where a component of the mission is to give a "second chance" to students who cannot otherwise be admitted to other EE programs.

The role of research: The administration at JCE sees research as an important part of the college's mission. This appears to be somewhat disconnected from the faculty's perspective. The faculty is very focused on teaching and mentoring students while the administration is clearly eager to promote research, possibly motivated in part by a desire to raise the stature of the college and bring in additional funds. And as we discuss in more detail in the General report, the Israeli government seems to consider research as a significant component in evaluating faculty for promotion.

Miscellaneous: We note that in the self-evaluation report the suggestion/statement is made that the college is on a par with Israel's leading institutions of higher education (which would include other colleges and the universities) is misleading on the surface although as discussed in section 4 below, in the discussions they clarified this statement for us.

Recommendations

Essential:

Fulfilling the mission: The relative paucity of high-tech jobs in the Jerusalem area makes it difficult for students to find jobs that match their qualifications. Conversely, the greater availability of local engineering talent to which the college has contributed, has not (yet) succeeded in attracting more high-tech jobs to the Jerusalem area. This creates a challenge and the need for finding a balance between creating a local over-supply of engineering talent, while at the same time increasing awareness of the availability of this local talent so as to attract new high-tech firms to Jerusalem.

Addressing this imbalance is essential to the college's ability to fulfill its mission. When students and alumni were asked for the reason that led them to study at JCE, most students answered that it was the only opportunity in Jerusalem to study electrical engineering. And that they don't want to leave the area.³ This means that the college meets a real need in serving the community that they were established to serve. However, if there is no high-tech industry in Jerusalem to support the college's graduating population then all those efforts will be in vain. It is, therefore, critical to grow engineering study opportunities in Jerusalem in a manner that aligns with, and hopefully fosters the growth of the local job market for such skills. And to tailor the study tracks to be appropriately matched to the industry that is attracted to the area.

The role of research: As emphasized in the general report, it is imperative that the Azrieli administration and the Israeli government recognize the difference in the missions of colleges and universities in the context of research, and in particular the difference in definition, role and nature of research at the colleges. This is particularly important in the context of evaluations and promotions, which currently are based on criteria essentially similar to those used in universities. It is imperative to *formally* recognize those differences and explicitly reflect them in the evaluation and promotion criteria used for colleges and universities. The current system is unhealthy and detrimental to the core teaching mission of the colleges.

³ It should be mentioned that a new undergraduate ECE program has recently been opened in the Hebrew University with tracks in computer Engineering, and in Electronic and Photonic Devices. Also, there is the undergraduate program at Lev Institute. Yet these programs target different student populations.

Advisable:

Dropout rate: The high dropout rate must remain a major focus area and continue to be addressed through targeted efforts, as it is imperative to improve it both to serve the mission and to remain viable. The college is clearly aware of the problem and has put in place additional mechanisms to assist students experiencing difficulties, especially in the first year, *e.g.*, additional mentoring and options to pursue their studies at a slower pace. It is too early to tell if those measures will be effective, but this needs to remain an area of emphasis.

3. Organizational Structure

Observations and findings

Consolidation: The 2007 report recommended a merging of the Electrical Engineering and Software Engineering departments. They report that this was not implemented primarily because the Software Engineering department is a large program that is working well, and more importantly one that exhibits significant curriculum differences with the Electrical Engineering department.

These are valid reasons. However, the combination of decreasing enrollment in Electrical Engineering and an insufficient number of specialization tracks in that department, makes it increasingly important to consider combining the Electrical Engineering and Software Engineering departments, even if reconciling their respective curricula to boast a more coherent common core will present initial challenges. Furthermore, as we also note in the General report, the boundaries between Electrical Engineering, as viewed traditionally, and Computer Science, Engineering and Software are increasingly diffuse and it is important to recognize this in the curriculum and to provide the requisite flexibility in study tracks for the students.

Departmental vs. institution: The departmental organizational structure appears to be working smoothly, but as indicated above, there seems to be some disconnect between the general aspirations of the faculty and that of the upper administration. Specifically, the faculty are very much focused on the institution's mission in teaching and student mentoring, and does a very good job at it, while the upper administration appears more focused on developing an enhanced

research profile more commensurate with the aspirations of a university than a college. It would be beneficial to ensure that those somewhat divergent perspectives are reconciled to allow the department to focus on its core mission of providing students from the Jerusalem region the best possible engineering education.

Recommendations

Essential:

Consolidation: The committee recommends that the Electrical and Software Engineering departments be merged. The challenges this poses are appreciated, and there will clearly be a need to restructure the curricula of both “tracks,” *i.e.*, to ensure that they have enough of a common core to make a merged department viable. However, curricula in both areas are evolving and becoming increasingly intertwined, so that a merger will offer opportunities to better address this changing environment. A merger will further allow the combination of teaching resources and can help mitigate the decreasing enrollment in Electrical Engineering. It would also be beneficial to students by providing them with greater flexibility in their selection of tracks, especially given that the Jerusalem job market appears to currently have a stronger demand for computer/software skills than hardware skills. A merged department affords flexibility in allocating resources in a manner responsive to the evolution of the job market in the broader Jerusalem area. At the same time it provides an EE track with the stability it needs to plan its evolution and ensure its long-term relevance.

There are several possible options for realizing such a merger, which involve different levels of integration. For example, EE and SE degrees could be structured to share only a core set of introduction courses, and branch out relatively early while allowing a sufficient number of free technical electives to make it easier for students to move from one degree to the other if and when needed. Alternatively, the two could be more tightly integrated, with EE becoming a track in, say, a Computer Engineering degree, focused on specialization courses in a student’s latter years.

Advisable:

Departmental vs. institution: Although addressing the role of research in colleges is an issue that goes beyond JCE as an individual institution, and is addressed in the General report, it is important for the college’s administration to acknowledge that the type of research that serves

its mission best is of a different nature than that pursued at universities. When possible, resources should be made available to faculty to allow them to remain current with technology developments in their field, and develop projects or courses that expose students to those advances by presentation at technology conferences even though the results aren't publishable in research journals and at major research conferences.

4. Study Programs

Observations and findings

Education quality: The self-evaluation report included a number of statements that were either not appropriately substantiated or required some additional clarification. For example, it stated as mentioned above, that the JCE academic level is on a par with Israel's leading higher education institutions. This is a very strong claim that was discussed during the visit. The response was that the claim is not intended to suggest that JCE is a university. Its students are not from the same background or with the same scientific preparation, and its mission is not to bring those students into the engineering profession at a level comparable to that of the universities. Instead, they explained that the statement was meant to reflect the fact that the curriculum is on par with that of universities, and that, at least when it comes to the top students, students are as well-equipped as university students when graduating. This may be the case, but was not substantiated through material in the report or during the visit.

It is important to note that the students appeared consistently happy with the education they are receiving and have received, even those who had not yet found a job in their field of training. The department is clearly providing a solid education and a nurturing environment. The department should be commended for those efforts, especially in light of the challenging student population they are targeting. They are clearly taking their mission seriously.

Curriculum adjustments: The program's curriculum was until recently out of the department's direct control, but this situation recently changed, and as a result a number of updates were implemented, including a greater emphasis on computing. This is positive, and may offer opportunities for further improvements. In particular, students seemed eager to see additional

specialization tracks offered, so as to have a range of choices comparable to that available at universities. It has also been mentioned that the department head sets the curriculum in consultation with the faculty. We would recommend that industry advisors be incorporated in the process since a key part of the mission is to attract industry to the area and it is important to know what would make the area attractive to industry.

Another curriculum-related theme that consistently emerged in discussions with students was to include more hands-on experience and topics of more immediate job relevance. For example, students who went on interviews were routinely asked a number of “standard” questions, and often found themselves unable to answer those questions. Students appreciate that they are being taught how to think, but believe that there is too much emphasis on theory and not enough on design skills and tools that would allow them to better express in a practical, engineering context, the knowledge they have acquired. In other words, students appear to be looking for more hands on training and experience and perhaps a little less conceptual and abstract education. There is obviously a balance that needs to be realized, but the feedback was consistent among students and alumni, clearly indicating that some adjustments in balance are needed.

The self-evaluation report states (pp. 3 and 18) that it is the department plan to submit a proposal for a Masters in Communication and Signal Processing. Given their many problems in offering additional tracks, their declining enrollments, and the large number of Adjuncts they need to rely on, this seem ill-advised and also not really consistent with their core mission.

Evening program: The evening program was recently terminated. Based on the information we were provided, this termination was because of the relatively low number of students enrolled in the program, even if the student quality was reasonably high. The program’s termination, while understandable given the current budget constraints, was viewed by many alumni as a mistake. They felt it offered tremendous value to an important segment of the college’s target student population. As one evening program graduate put it, the evening program was a gift from the heavens since he would not have been able to get a degree otherwise. We strongly

recommend that it be re-instituted and with sufficient resources and scheduling to make it viable.

Dropout rate: As mentioned earlier, the dropout rate continues to be high (about 40% cumulative), and addressing this problem must continue to be an area of focus.

Industry experience: Prior work experience in industry has become essential to a successful job search upon graduation. Prior work experience from students is expected by potential employers when students get on the job market. In many Israeli colleges and universities, the primary mechanism by which students acquire such experience is by working part-time in their 3rd and 4th years. When not properly structured, this can be detrimental to the quality of a student's education. An evening program should be structured to ensure that students can schedule courses around their work schedule and be able to extend how long it takes them to complete their degree. It should be noted that the majority of JCE students currently do not appear to follow such a model; possibly because of the scarcity of high-tech jobs in the Jerusalem area.

Given the importance of prior industry experience in finding a job and its educational benefits in allowing students to gain early experience in applying the skills they have learned, it is critical that JCE develop mechanisms to facilitate access to industry experience for its students. This can take many forms such as helping to organize internship or coop opportunities with selected industries, or increasing the number of senior design projects carried out in collaboration with industry.

Recommendations

Essential:

Curriculum adjustments: There appears to be a need for a rebalancing between theory and more hands-on experience in both courses and labs. This will help students to not only better market themselves and display the skills they have acquired in their degree, but also facilitate connecting the knowledge they have acquired to its applicability to the industry environment in which the students aspire to work. Implementing such a shift throughout the curriculum is

needed to ensure that students are better equipped to compete for the relatively few high-tech jobs available in the Jerusalem region.

The proposed Master's program: As indicated previously, given the College's many problems in offering additional tracks, the declining enrollments, and the large number of Adjuncts that they need to rely on we recommend that they not pursue adding a Master's program.

Advisable:

Industry experience: The college should explore the possibility of developing targeted connections with industry to offer its students the opportunity for experience working in industry prior to graduation. And for industry to provide advice in curriculum development to better match industry needs and plans. This would both strengthen the students' educational experience and their ability to more easily find jobs upon graduation (once companies realize the value and skill level of the students from Azrieli, they are more likely to be interested in hiring them). In addition, developing such ties with industry may also help attract high-tech companies to the Jerusalem area, and in the process address an issue that is preventing the college from fulfilling part of its mission.

Dropout rate: The college and the department need to continue focusing on and investing in approaches that recognize the current high dropout rate and develop mechanisms to lower it.

Evening Program: It would be important to explore if and how an evening program could be reintroduced. A merger between the Electrical Engineering and Software Engineering department might facilitate this by making a joint program attractive to more students. Alternatively, picking an area of differentiation that will be uniquely associated with JCE might also help attract a critical mass of students. Given the college's mission of attracting to engineering, students from the Jerusalem area who may otherwise not have had this opportunity, an evening program appears to be a potentially important component of such a mission.

Desirable:

As we have noted several times, there is currently a mismatch between the concentration of high tech in Jerusalem and the Azrieli curriculum and tracks. It would be desirable to be proactive in engaging in ongoing dialog and partnership between Azrieli curriculum developers

and industry currently located outside of Jerusalem who would consider establishing some presence in Jerusalem. Without developing curriculum in partnership with industry, including their advice, the oversupply of qualified students for the available jobs will inevitably continue since most students appear to be very reluctant to leave the area. We would recommend that industry advisors be incorporated in the process since a key part of the mission is to attract industry to the area and it is important to know what would make the area attractive to industry.

5. Human Resources / Faculty

Observations and findings

Faculty structure & feedback: The faculty is rather small (8 Senior Faculty, one Junior Faculty) and all Senior faculty hold Ph.D's. Such a small number is insufficient to cover the range of topics present in an Electrical Engineering department. This issue is partially addressed through reliance on a relatively large number of Adjunct faculty (a total of 35, 12 with Ph.D.'s, 16 with Masters, and 7 with Bachelor degrees), but such a large number can have its own logistics problems. It also makes it difficult to offer a sufficient number of specialization tracks to students. In general, Adjunct faculty seemed happy about their positions, although several suggestions for improvements were made. For example, it would be desirable, if possible, to provide Adjunct faculty with greater stability and continuity in what they are teaching, *i.e.*, ensure they are teaching the same course several times in a row, as it would help them develop better material for the course. Additionally, several saw a need for increased lab hours to allow students more time to have access to lab instructors.

Both the regular faculty and the adjunct faculty conveyed a genuine interest in teaching and in ensuring that students from the Jerusalem area have access to a strong engineering education. The ability to focus on teaching is what attracted them to a position at a college rather than a university. They are all actively involved in mentoring students, and conversely students expressed appreciation for the level of mentoring that was available.

Role of research: Faculty also expressed ambivalence about the need for "research." On one hand, they all agreed that exposure to and involvement in leading edge activities was critical to

remaining a good teacher. On the other hand, they felt that the evaluation of research primarily through publications was unfair given their focus on teaching and their much higher teaching load. Their internal evaluations focus on teaching quality, as they should, but promotions are dominated by publication requirements and reference letters that ask that their research be compared to that of university faculty. This puts them at a disadvantage and can often be discouraging.

Job stability: Faculty are not tenured, but rather are on yearly contracts. However, this did not seem to be cause of much concern, as faculty generally feel that their position is stable.

Recommendations

Essential:

Role of research: As discussed earlier, the definition and role of research in colleges is an issue that goes beyond an individual college. It is, however, important that JCE faculty be encouraged to pursue activities that will allow them to remain current in their own field, *e.g.*, by attending industry conferences and or being able to develop projects or courses based on the latest technologies. These activities should guide students through unstructured and independent discovery that is new to and created by the student but not necessarily new to the world. These explorations can often lead to technology development that is publishable at technology conferences but not appropriate for peer reviewed research conferences or journals. Those activities and their output should not be evaluated using the same metrics as those used for university research, *e.g.*, number of publications or impact factors. Instead, they need to be assessed based on their contributions to students' learning experience and the impact on the students. The use of such an assessment should also be extended to promotion decisions.

Advisable:

Faculty structure & feedback: Given the small size of the regular faculty and the large number of Adjunct faculty currently employed by the department, it would be desirable to ensure that more courses are taught by regular faculty. This would require hiring several new regular faculty, which may be facilitated if the Electrical and Software Engineering departments are merged as recommended earlier.

Desirable:

Faculty structure & feedback: Although growing the regular faculty is an important goal, it is expected that Adjunct faculty will continue to play a vital role. As a result, ensuring that the Adjunct faculty can fulfill their mandate as effectively as possible is important. In that context it would be desirable to provide them with greater visibility and, to the extent possible, stability in the set of courses they are responsible for teaching. For example, better advance planning might facilitate assigning Adjunct faculty to the same courses several times in a row.

6. Students

Observations and findings

Student quality: Based on input from faculty, the quality of the students attending the college spans a very broad range. Some are very good, but there is nevertheless a higher percentage of lower quality students than at universities. This is to be expected given the college's mission, but affects the pace at which classes can be taught and calls for providing extra help (mentoring) to help weaker students, and especially so in the first year. Additionally, many students did not attend strong high-schools and, therefore, have deficiencies in their preparation in the basic sciences, in particular physics. Those deficiencies make it harder for them to relate conceptual skills to engineering practice. This can in turn lower their motivation to study the more theoretical topics, and eventually leads to a higher dropout rate among those weaker students. On the other hand, most if not all the students are highly motivated. Many are the first in their family to attend college, and their genuine enthusiasm makes teaching easier and more gratifying since the students are highly motivated. This enthusiasm was also apparent in the students who described the senior projects they had been involved in, which appeared to be of solid quality.

Student feedback: In keeping with the students' difficulties in relating conceptual topics to engineering practice, students overwhelmingly wanted to see more hands-on experience in their curriculum. This included a greater focus on design skills and exposure to additional tools for more immediate industry applicability, *i.e.*, more training in lieu of education. Students felt that they were being taught the foundations and theory but not always the next level that builds on those. Similarly, students felt a need for greater exposure to programming and possibly less

emphasis on math and physics. They generally want to be taught more options with which to express the base knowledge they have acquired.

Another complaint that surfaced was in relation to the small number of specialization tracks available to students, in part because of the school's small size. Students felt deprived of choices comparable to those offered to university students. Another minor complaint involved the recent decision to combine classes previously offered on a per cohort basis. Some students felt it made bonding with their peers and asking questions more difficult.

On a broader level, students appeared consistently happy with the education they receive, even those who are still without a job. The level of satisfaction with professors was generally high, and students appreciated the fact that classes are smaller, which makes approaching professors easier. The vast majority felt they had made the right choice when they decided to attend JCE. It is the only non-religious option to study Electrical Engineering in Jerusalem, and it offers a good level of studies in a friendly environment.

Student employment: As mentioned earlier, there is a disconnect between the perception that most students are employed in an area closely related to their field of study, and what appears to be the reality of the Jerusalem high-tech job market to which students are confronted. Many students are still looking for jobs several months or even over a year after graduating, and some have resorted to falling back to non-engineering jobs. Even students willing to relocate outside of Jerusalem are experiencing difficulties quickly finding a job. On the other hand, most students appear confident that they will eventually find a job in engineering.

Recommendations

Essential:

Student employment: As discussed in earlier sections, there is a mismatch between the college's mission to ensure that its graduates are successfully employed in engineering positions and the current high-tech job market in Jerusalem. There is obviously no easy fix for this situation, but there are nevertheless several steps that can be taken towards improving the situation:

Establish closer ties with industry to secure opportunities for students to gain work experience prior to graduation. This needs to be done carefully to avoid impacting students' study schedules, but can be realized through a mix of internships, coops between the 3rd and 4th years, and senior projects in industry. Developing closer ties with industries, when done properly, can have many benefits from improving students' educational experience, to facilitating job placement, to eventually attracting high-tech companies to Jerusalem once they realize that a high quality pool of engineering talent is available;

Build a strong alumni network by systematically reaching out to alumni and tracking their whereabouts. Developing such a network can be instrumental in improving the college's reputation among the local industry, as well as in facilitating job placement for new graduates; Focus on equipping students with skills that are better aligned with the local job market. Many students asked for more programming courses for that very purpose. A merger of the Electrical and Software Engineering departments would likely facilitate implementing such changes.

In curriculum development seek closer partnership and advice from companies not currently in the Jerusalem area to understand their needs and tailor the curriculum in ways that will motivate those companies to establish a presence in the area.

Advisable:

Student feedback: The level of hands-on activities should be increased throughout the curriculum. Students are eager to apply to engineering problems the skills they have learned, and while this should not be done at the cost of weakening foundations, there appears to be a need for a shift of focus from theory to practice. This would also be in line with the college's mission of educating engineers who can rapidly insert themselves into the job market. Note that while closer ties with industry may also serve this purpose, there is nevertheless a need for some curriculum level adjustments.

Desirable:

Student feedback: There was a clear desire on the part of students for access to more specialization tracks than currently offered. They felt that the limited number of tracks currently available put them at a disadvantage compared to university students. Increasing the number of specialization tracks should, therefore, be a priority. We note, however, that access to more specialization should not be at the cost of weakening the foundations needed to sustain a career in engineering long-term. Hence, it should not be realized by lowering expectations

when it comes to fundamental material. Again, merging the Electrical and Systems Engineering departments may help in that respect by offering students more choices and maybe by facilitating an increase in faculty size.

7. Teaching and Learning Outcomes

Observations and findings

Class attendance: From discussions with faculty and students alike, it appears that class attendance is good even for students in their 3rd and 4th years. This is positive and in contrast to the situation that is common in other colleges and universities, where work and other obligations interfere with class attendance.

Teaching quality and approaches: Students were generally satisfied with teaching quality and commented on the general availability of professors when they had questions, as well as on the benefits of smaller class sizes (when compared to universities).

Teaching style appears to be diverse and mostly a function of professors' preferences, *i.e.*, ranging from extensive use of online resources to requesting that all lab reports be hand-written. Several students felt that it would be desirable if high quality and relevant videos of lectures were made more widely available. As it currently stands, they appear to be more the exception rather than the norm.

One complaint that was expressed relates to the reuse in some classes of test material from year to year and without changes. This is obviously to be avoided, but appears to be a relatively isolated problem.

Curriculum updates: The curriculum is set by the department head in consultation with the faculty. Faculty are also able to make suggestions for changes and call meetings to have them discussed. By and large, the system appears to be working well. However it would be beneficial to incorporate industry advisors in the process.

Recommendations

Advisable:

Teaching quality and approaches: Mechanisms should be put in place to ensure that tests are not reused verbatim from year to year.

Desirable:

Teaching quality and approaches: Faculty should be encouraged to explore the incorporation of new technologies into their teaching methods. This may start with the production of short video segments of lectures, but should more generally be extended to encompass the many new tools available to-date to make teaching more effective, *e.g.*, clickers, auto-grading, online quizzes, etc.

8. Research

Observations and findings

Scope of research: As discussed earlier, the type of research that can benefit a college's mission and the education of its students is typically of an applied nature. The two senior projects that were presented are solid examples of the type of open-ended problems that, while not traditional research, are highly effective tools for developing and testing a student's ability to integrate the different skills she/he has acquired, and develop the critical thinking they will need to be successful engineers. Together with encouraging faculty to experiment with new technologies, this is exactly the type of "research" that can help advance the college's core mission.

Recommendations

Advisable:

Scope of research: The College should encourage and value the involvement of its students and faculty in projects that expose them to the latest technology advances and allow them to explore their use and applications. This can be in the form of collaborations with industry, senior projects, integration of new technologies in the curriculum, etc., but requires proactive support on the part of the administration to facilitate connections (with industry) and provide the resources that may be required, *i.e.*, equipment and/or the ability for faculty to attend technical conferences.

9. Infrastructure

Observations and findings

Labs & facilities: Although this committee did not have the time and expertise to deeply evaluate the teaching laboratories, on the surface they appear to be well maintained and with satisfactory equipment. The availability of a new building should also significantly enhance the quality of the study environment made available to students.

Library resources seem adequate although it was surprising that institutional access to relatively basic resources such as IEEE Xplore was not readily available (access was typically through individual faculty memberships). Budget limitations were put forward to explain the situation, but given the importance of providing students and faculty with access to the latest technology developments; this seems shortsighted and needs to be corrected.

The equipment needed to record videos of lectures seems to be available, but hardly used by any faculty. Given the desire expressed by students to have access to videos of lectures, this resource deserves to be better leveraged.

On a minor note, the allocation of only 500 MBytes for each student's network drive (p. 35) appears insufficient and rather meager given today's technology.

Student support: The administrative/counseling support for students appears well organized, in particular when it comes to its role in determining how to direct students who need different types of counseling. This enables them to offer individualized and effective assistance to students in need of help.

Recommendations

Advisable:

Labs & facilities: Institutional access to resources such as IEEE Xplore (and possibly the ACM Digital Library) should be secured.

Student support: Given the relatively high dropout rate, a continued focus on ensuring that students in need of help are quickly identified and provided with the necessary assistance remains critical.

It may also be possible to extend the current system that operates mostly in a reactive manner, *i.e.*, when students seek help, with a more proactive approach that would let individual faculty identify and share early on information on which students are experiencing difficulties.

Desirable:

Labs & facilities: Faculty should be encouraged to take advantage of the facilities available to produce video segments of their lectures, as it is something many students have expressed a desire for. More generally, faculty should be encouraged to explore the incorporation of new technologies into their teaching methods.

10. Self-Evaluation Process and implementation of previous recommendations

Observations and findings

The self-evaluation report is reasonably comprehensive and well-written. However, in several areas it lacks in self-criticism and in acknowledging the reality that the college is facing.

For example, the report states (p. 24) that *“Our graduates' quick and smooth integration into the Israeli high-tech workforce, and academic graduate work, is evidence of our successfully trained excellent electrical and electronics engineers”*. This is in contrast with the many challenges students encounter when looking for jobs after graduation. Similarly, the issue of declining applications and enrollment in Electrical and Electronics Engineering (admissions decreased by more than 50% between 2009-2010 and 2013-2014 - see p. 10, and the number of starting students decreased nearly by a factor 3 in the same period - see p. 53) is not really discussed anywhere in the report. Given its implication for the future of the department, this is worrisome.

On the positive side, the self-evaluation report acknowledges the continuing high dropout rate as an important problem, and a number of mentoring and counseling mechanisms have been

put in place in an attempt to lower it. Similarly, the report acknowledges its difficulty in recruiting more female students (p. 72), and hopes that the situation will improve as the field becomes more computer-centered, though no additional steps are suggested beyond this.

When it comes to addressing the recommendations of the 2007 report, while progress was made on many issues, several remain outstanding.

First and foremost is the recommended merging of the EE and SE departments. A number of arguments were put forward in the self-evaluation report for why such a merger was not desirable. However, this committee is very much of the belief that such a merger should be implemented. As articulated in this report, there are many arguments in favor of such a merger, and this is a recommendation that should be acted upon this time around. There are several possible models that can be followed in realizing such a merged department, which involve different levels of integration. A loose integration with only a common foundational core may be initially less disruptive, but also affords fewer opportunities for leveraging synergies and limits curriculum flexibility. A tighter integration, with EE as a specialization track as part of a single degree, maximizes synergies and reuse of resources. However, it may be harder to realize initially given existing differences between EE and SE degrees.

Another recommendation that has only been marginally addressed deals with the large number of Adjunct faculty still teaching courses in the department. Although the Adjuncts we met appear dedicated to their teaching mission at the college, their number that stands at 35 remains very high, especially in light of the fact that only 12 have Ph.D.'s. Similarly, the 2007 report recommended an increase in the number of regular faculty to at least ten (10) with no less than four (4) in each specific discipline. The current faculty currently stands at eight (8) Senior faculty and one (1) Junior faculty, *i.e.*, essentially unchanged from the time of the 2007 report. The 2007 committee felt that the department would not be able to continue operating unless it succeeded in increasing its faculty size, and this has not yet happened (the only meaningful expansion has been in the number of Adjunct faculty that grew from 12 to 35, but as mentioned this comes with its own set of problems).

Chapter 4: Summary of Recommendations

Essential Recommendations:

Fulfilling the mission: The relative paucity of high-tech jobs in the Jerusalem area makes it difficult for students to find jobs that match their qualifications. Conversely, the greater availability of local engineering talent to which the college has contributed, has not (yet) succeeded in attracting more high-tech jobs to the Jerusalem area. This creates a challenge and the need for finding a balance between creating a local over-supply of engineering talent, while at the same time increasing awareness of the availability of this local talent so as to attract new high-tech firms to Jerusalem. Addressing this imbalance is essential to the college's ability to fulfill its mission.

The role of research: As emphasized in the general report, it is imperative that the Azrieli administration and the Israeli government recognize the difference in the missions of colleges and universities in the context of research, and in particular the difference in definition, role and nature of research at the colleges. This is particularly important in the context of evaluations and promotions, which currently are based on criteria essentially similar to those used in universities. It is imperative to *formally* recognize those differences and explicitly reflect them in the evaluation and promotion criteria used for colleges and universities. The current system is unhealthy and detrimental to the core teaching mission of the colleges. It is, however, important that JCE faculty be encouraged to pursue activities that will allow them to remain current in their own field, *e.g.*, by attending industry conferences and or being able to develop projects or courses based on the latest technologies. And that guides students through unstructured and independent discovery that is new to and creative by the student but not necessarily new to the world. These explorations can often lead to technology development that is publishable at technology conferences but not appropriate for peer reviewed research conferences or journals. Those activities and their output should not be evaluated using the same metrics as those used for university research, *e.g.*, number of publications or impact factors. Instead, they need to be assessed based on their contributions to students' learning experience and the impact on the students. The use of such an assessment should also be extended to promotion decisions.

Consolidation: The committee recommends that the Electrical and Software Engineering departments be merged. The challenges this poses are appreciated, and there will clearly be a need to restructure the curricula of both “tracks,” *i.e.*, to ensure that they have enough of a common core to make a merged department viable. However, curricula in both areas are evolving and becoming increasingly intertwined, so that a merger will offer opportunities to better address this changing environment. A merger will further allow the combination of teaching resources and can help mitigate the decreasing enrollment in Electrical Engineering. It would also be beneficial to students by providing them with greater flexibility in their selection of tracks, especially given that the Jerusalem job market appears to currently have a stronger demand for computer/software skills than hardware skills. A merged department affords flexibility in allocating resources in a manner responsive to the evolution of the job market in the broader Jerusalem area. At the same time it provides an EE track with the stability it needs to plan its evolution and ensure its long-term relevance. There are several possible options for realizing such a merger, which involve different levels of integration. For example, EE and SE degrees could be structured to share only a core set of introduction courses, and branch out relatively early while allowing a sufficient number of free technical electives to make it easier for students to move from one degree to the other if and when needed. Such a loose integration with only a common foundational core may be initially less disruptive, but also affords fewer opportunities for leveraging synergies and limits curriculum flexibility. Alternatively, the two degrees could be more tightly integrated, with EE becoming a track in, say, a Computer Engineering degree, focused on specialization courses in a student’s latter years. This maximizes synergies and reuse of resources. However, it may be harder to realize initially given existing differences between EE and SE degrees.

Curriculum adjustments: There appears to be a need for a rebalancing between theory and more hands-on experience in both courses and labs. This will help students to not only better market themselves and display the skills they have acquired in their degree, but also facilitate connecting the knowledge they have acquired to its applicability to the industry environment in which the students aspire to work. Implementing such a shift throughout the curriculum is needed to ensure that students are better equipped to compete for the relatively few high-tech jobs available in the Jerusalem region.

The proposed Masters program: As indicated previously, given the College's many problems in offering additional tracks, the declining enrollments, and the large number of Adjuncts that they need to rely on we recommend that they not pursue adding a Masters program.

Evening Program: It would be important to explore if and how an evening program could be reintroduced. A merger between the Electrical Engineering and Software Engineering department might facilitate this by making a joint program attractive to more students. Alternatively, picking an area of differentiation that will be uniquely associated with JCE might also help attract a critical mass of students. Given the college's mission of attracting to engineering, students from the Jerusalem area who may otherwise not have had this opportunity, an evening program appears to be a potentially important component of such a mission.

Student employment: As discussed in earlier sections, there is a mismatch between the college's mission to ensure that its graduates are successfully employed in engineering positions and the current high-tech job market in Jerusalem. There is obviously no easy fix for this situation, but there are nevertheless several steps that can be taken towards improving the situation:

Establish closer ties with industry to secure opportunities for students to gain work experience prior to graduation. This needs to be done carefully to avoid impacting students' study schedules, but can be realized through a mix of internships, coops between the 3rd and 4th years, and senior projects in industry. Developing closer ties with industries, when done properly, can have many benefits from improving students' educational experience, to facilitating job placement, to eventually attracting high-tech companies to Jerusalem once they realize that a high quality pool of engineering talent is available;

Build a strong alumni network by systematically reaching out to alumni and tracking their whereabouts. Developing such a network can be instrumental in improving the college's reputation among the local industry, as well as in facilitating job placement for new graduates;

Focus on equipping students with skills that are better aligned with the local job market. Many students asked for more programming courses for that very purpose. A merger of the Electrical and Software Engineering departments would likely facilitate implementing such changes.

In curriculum development seek closer partnership and advice from companies not currently in the Jerusalem area to understand their needs and tailor the curriculum in ways that will motivate those companies to establish a presence in the area.

Advisable Recommendations:

Dropout rate: Correcting the high dropout rate must remain a major focus area and continue to be addressed through targeted efforts, as it is imperative to improve it both to serve the mission and to remain viable. The college is clearly aware of the problem and has put in place additional mechanisms to assist students experiencing difficulties, especially in the first year, *e.g.*, additional mentoring and options to pursue their studies at a slower pace. It is too early to tell if those measures will be effective, but this needs to remain an area of emphasis.

Evening Program: It would be important to explore if and how an evening program could be reintroduced. A merger between the Electrical Engineering and Software Engineering department might facilitate this by making a joint program attractive to more students. Alternatively, picking an area of differentiation that will be uniquely associated with JCE might also help attract a critical mass of students. Given the college's mission of attracting to engineering, students from the Jerusalem area who may otherwise not have had this opportunity, an evening program appears to be a potentially important component of such a mission.

Industry experience: The college should explore the possibility of developing targeted connections with industry to offer its students the opportunity for experience working in industry prior to graduation. And for industry to provide advice in curriculum development to better match industry needs and plans. This would both strengthen the students' educational experience and their ability to more easily find jobs upon graduation (once companies realize the value and skill level of the students from Azrieli, they are more likely to be interested in hiring them). In addition, developing such ties with industry may also help attract high-tech companies to the Jerusalem area, and in the process address an issue that is preventing the college from fulfilling part of its mission.

Faculty structure & feedback: Given the small size of the regular faculty and the large number of Adjunct faculty currently employed by the department, it would be desirable to ensure that more courses are taught by regular faculty. This would require hiring several new regular faculty, which may be facilitated if the Electrical and Software Engineering departments are merged as recommended earlier.

It is also important for the college's administration to acknowledge that the type of research which serves its mission best is of a different nature than that pursued at universities. When possible, resources should be made available to faculty to allow them to remain current with technology developments in their field, and develop projects or courses that expose students to those advances by presentation at technology conferences even though the results aren't publishable in research journals and at major research conferences.

Student feedback: The level of hands-on activities should be increased throughout the curriculum. Students are eager to apply to engineering problems the skills they have learned, and while this should not be done at the cost of weakening foundations, there appears to be a need for a shift of focus from theory to practice. This would also be in line with the college's mission of educating engineers who can rapidly insert themselves into the job market. Note that while closer ties with industry may also serve this purpose, there is nevertheless a need for some curriculum level adjustments.

Teaching quality and approaches: Mechanisms should be put in place to ensure that tests are not reused verbatim from year to year.

Scope of research: The college should encourage and value the involvement of its students and faculty in projects that expose them to the latest technology advances and allow them to explore their use and applications. This can be in the form of collaborations with industry, senior projects, integration of new technologies in the curriculum, etc., but requires proactive support on the part of the administration to facilitate connections (with industry) and provide the resources that may be required, *i.e.*, equipment and/or the ability for faculty to attend technical conferences.

Labs & facilities: Institutional access to resources such as IEEE Xplore (and possibly the ACM Digital Library) should be secured.

Student support: Given the relatively high dropout rate, a continued focus on ensuring that students in need of help are quickly identified and provided with the necessary assistance remains critical.

It may also be possible to extend the current system that operates mostly in a reactive manner, *i.e.*, when students seek help, with a more proactive approach that would let individual faculty identify and share early on information on which students are experiencing difficulties.

Desirable Recommendations:

As we have noted several times, there is currently a mismatch between the concentration of high tech in Jerusalem and the Azrieli curriculum and tracks. It would be desirable to be proactive in engaging in ongoing dialog and partnership between Azrieli curriculum developers and industry currently located outside of Jerusalem who would consider establishing some presence in Jerusalem. Without developing curriculum in partnership with industry, including their advice, the oversupply of qualified students for the available jobs will inevitably continue since most students appear to be very reluctant to leave the area. We would recommend that industry advisors be incorporated in the process since a key part of the mission is to attract industry to the area and it is important to know what would make the area attractive to industry.

Faculty structure & feedback: Although growing the regular faculty is an important goal, it is expected that Adjunct faculty will continue to play a vital role. As a result, ensuring that the Adjunct faculty can fulfill their mandate as effectively as possible is important. In that context it would be desirable to provide them with greater visibility and, to the extent possible, stability in the set of courses they are responsible for teaching. For example, better advance planning might facilitate assigning Adjunct faculty to the same courses several times in a row.

Student feedback: There was a clear desire on the part of students for access to more specialization tracks than currently offered. They felt that the limited number of tracks currently available put them at a disadvantage compared to university students. Increasing the number of specialization tracks should, therefore, be a priority. We note, however, that access to more specialization should not be at the cost of weakening the foundations needed to sustain a career in engineering long-term. Hence, it should not be realized by lowering expectations when it comes to fundamental material. Again, merging the Electrical and Systems Engineering departments may help in that respect by offering students more choices and maybe by facilitating an increase in faculty size.

Teaching quality and approaches: Faculty should be encouraged to explore the incorporation of new technologies into their teaching methods. This may start with the production of short video segments of lectures, but should more generally be extended to encompass the many new tools available to-date to make teaching more effective, *e.g.*, clickers, auto-grading, online quizzes, etc.

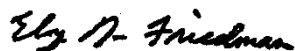
Labs & facilities: Faculty should be encouraged to take advantage of the facilities available to produce video segments of their lectures, as it is something many students have expressed a

desire for. More generally, faculty should be encouraged to explore the incorporation of new technologies into their teaching methods.

Signed by:



Prof. Alan Oppenheim - Chair



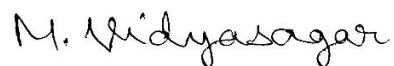
Prof. Eby G. Friedman



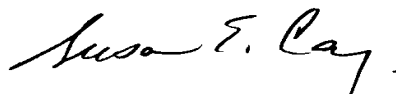
Prof. EHUD Heyman



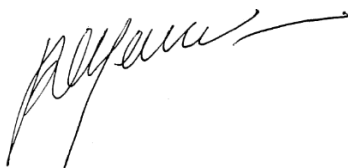
Dr. Orly Yadid-Pecht



Prof. Mathukumalli Vidyasagar



Prof. Susan Conry



Prof. Roch Guerin



Prof. Dr.-Ing. Walter Kellermann

Appendix 1: Letter of Appointment



December 2015

Prof. Alan Oppenheim
Department of Electrical Engineering and Computer Science
MIT
USA

Dear Professor,

Al

The Israeli Council for Higher Education (CHE) strives to ensure the continuing excellence and quality of Israeli higher education through a systematic evaluation process. By engaging upon this mission, the CHE seeks: 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.

As part of this important endeavor we reach out to world renowned academicians to help us meet the challenges that confront the Israeli higher education by accepting our invitation to participate in our international evaluation committees. This process establishes a structure for an ongoing consultative process around the globe on common academic dilemmas and prospects.

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

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 the study programs in **Electrical and Communication System Engineering**. In addition to yourself, the composition of the Committee will be as follows: Prof. Susan Conry, Prof. Roch Guerin, Prof. Ehud Heyman, Prof. Mathukumalli Vidyasagar, Dr. Orly Yadid-Pecht, Prof. Eby Gershon Friedman, Prof. Dr.-Ing Walter Kellermann.

Ms. Daniella Sandier and Ms. Inbal Haskell-Gordon will be the coordinators of the Committee.

Details regarding the operation of the committee and its mandate are provided in the enclosed appendix.

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

Sincerely,

Hagit Messer

Prof. Hagit Messer-Yaron
Vice Chair,
The Council for Higher Education (CHE)

Enclosures: Appendix to the Appointment Letter of Evaluation Committees

cc: Dr. Varda Ben-Shaul, Deputy Director-General for QA, CHE
Ms. Daniella Sandier, committee coordinator
Ms. Inbal Haskell-Gordon, committee coordinator

Appendix 2: Site Visit Schedule

**Electrical and Electronics Engineering - Tentative schedule of
site-visit Azrieli - College of Engineering Jerusalem
(JCE)**

Sunday 10/1/16

Time	Subject	Participants
9:30-10:15	Opening session with the heads of the institution and the senior staff member appointed to deal with quality assessment	Prof. Avi Domb - President Prof. Eitan Manor - Advisor to the President for Academic Affairs Prof. Tamar Raz Nahum- Dean of Academic Affairs Prof. Pinchas Mandelbaum- Head, Department of Electrical and Electronics Engineering Prof. Deborah Shalev - The Quality Assessment and Assurance Superior Dr. Radel Ben-Av- Head of Academic Committee Dr. Tamar Gilon- Head, Center for Promotion of Teaching & Learning
10:15-10:45	Meeting with Head of the Department of Electrical and Electronics Engineering	Prof. Pinchas Mandelbaum- Head, Department of Electrical and Electronics Engineering Dr. Eran Gur- Senior academic staff
10:45-11:30	Meeting with the administrative support for the Department of Electrical and Electronic Engineering	Eng. Anna Grath- Electronics Lab Manager Ms. Tal Sarig - Faculty Administration Director Ms. Hadar Dar - Student Administration Director Ms. Carol Katz - Head Librarian Ms. Sharon Moyal- Registrar
11:30-11:40	Break	
11:40-12:25	Meeting with senior academic staff*	Dr. Eran Gur; Dr. Doron Ben Zvi; Dr. Yaron Seliktar; Prof. Irving Kalet; Dr. Gerald Cooper; Eng.; Tatyana Rozenfeld
12:25-13:10	Meeting with heads of basic science courses*	Dr. Alex Eizenberg- Head of Mathematical Studies Dr. Doron Azulay- Head of Physics Studies Dr. Yehuda Hassin- Department of Software Engineering
13:10-14:00	Lunch (in the same room)	Closed-door working meeting of the committee
14:00-14:30	Meeting with adjunct lecturers	Prof. Haim Matzner; Dr. Zeev Elitzur; Dr. Itay Furman; Dr. Dov Kaplan; Dr. Leonid Khayutin; Mr. Dmitry Babukh; Mr. Hagai Merzbach,
14:30-15:10	Meeting with B.Sc. / M.Sc. students	At least 10- members of all years of the program

15.10-15.50	Final Project Presentation	Dr. Gerald Cooper + students
15.50-16:25	Meeting with Alumni**	
16:25-16:35	Break	
16.35-17:15	Tour of campus (Electronics Eng. labs, New teaching building etc.)	Prof. Avi Domb - President Prof. Pinchas Mandelbaum- Head, Department of Electrical and Electronics Engineering
17:15-17:45	Closed Door Meeting	
17:45-18:15	Closing meeting	Prof. Avi Domb - President Prof. Tamar Raz- Dean of Academic Affairs Prof. Pinchas Mandelbaum- Head, Department of Electrical and Electronics Engineering Prof. Deborah Shalev - Quality Assessment and Assurance Superior

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

** 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.