



## **Committee for the Evaluation of Computer Science Study Programs**

**Hadassah Academic College**

**School of Computer Science**

Evaluation Report

**October 2013**

## Contents

<b>Chapter 1:</b>	Background.....	3
<b>Chapter 2:</b>	Committee Procedures .....	5
<b>Chapter 3:</b>	Evaluation of Computer Science Study Program at Hadassah Academic College .....	6
<b>Chapter 4:</b>	General Recommendations and Timetable.....	12

**Appendices:** Appendix 1 – Letter of Appointment

Appendix 2 – Schedule of the visit

## **Chapter 1- Background**

The Council for Higher Education (CHE) decided to evaluate study programs in the field of Computer Science during the academic year of 2012-2013.

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. Maurice Herlihy – Computer Science Department, Brown University, USA - Committee Chair
- Prof. Robert L. Constable - Computer Science Department , Cornell University, USA
- Prof. David Dobkin - Computer Science Department, Princeton University, USA<sup>1</sup>.
- Prof. Sarit Kraus - Department of Computer Science, Bar Ilan University, Israel<sup>2</sup>
- Prof. Dmitry Feichtner-Kozlov, Department of Mathematics, Bremen University, Germany
- Prof. Joe Turner, Jr. - (Emeritus ) - Department of Computer Science, Clemson University, USA - ABET Representative
- Prof. Moshe Vardi - Department of Computer Science, Rice University, USA

Ms. Yael Herzstein served as the Coordinator of the Committee on behalf of the CHE.

Within the framework of its activity, the Committee was requested to:<sup>3</sup>

1. Examine the self-evaluation reports, submitted by the institutions that provide study programs in Computer Science, 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.

---

<sup>1</sup> Due to scheduling constraints, Prof. David Dobkin did not participate in the site visits to the Jerusalem College of Technology, Hadassah Academic College, and Ariel University.

<sup>2</sup> In accordance with the CHE's policy, Prof. Sarit Kraus did not participate in the evaluation of the Computer Science department at Bar Ilan University to prevent the appearance of a conflict of interests.

<sup>3</sup> The Committee's letter of appointment is attached as **Appendix 1**.

The entire process was conducted in accordance with the CHE's Guidelines for Self-Evaluation (of October 2011).

## **Chapter 2-Committee Procedures**

The Committee held its first meetings on May 21, 2013, during which it discussed fundamental issues concerning higher education in Israel, the quality assessment activity, as well as Computer Science Study programs in Israel.

In May - June 2013, the Committee held its visits of evaluation, and visited Ariel University, Bar Ilan University, the Hadassah Academic College, Jerusalem College of Technology and Tel Aviv University. During the visits, the Committee met with various stakeholders at the institutions, including management, faculty, staff, and students.

This report deals with the School of Computer Science at Hadassah Academic College. The Committee's visit to Hadassah Academic College took place on May 30, 2013.

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

The Committee thanks the management of Hadassah Academic College and the School of Computer Science for their self-evaluation report and for their hospitality towards the committee during its visit at the institution.

## **Chapter 3: Evaluation of the Computer Science Study Program at Hadassah Academic College**

*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**

The committee commends Hadassah Academic College for giving disadvantaged and high-risk students an educational opportunity that they would not otherwise have.

The teachers have an admirable enthusiasm for teaching and for the mission of the college. The teachers' professional development efforts are impressive, though largely self-motivated. The college must ensure that these activities are supported and recognized.

Unfortunately, it is clear that the program is unsustainable in its current state due to low enrollment and drastic action is required to keep the program viable. The college must launch a professional marketing effort to raise the enrollment to a sustainable level.

### **2. Organizational Structure**

#### Observations and findings

The faculty seemed unaware that the president and rector were working to improve the computer science program's visibility and enrollment levels.

In spite of the fact that many of their students work in Israeli high-tech industry, the department does not seem to have any concrete relation with industry. Such relations can enhance the visibility of the program, and provide opportunities for the enrichment of the educational program.

Although the alumni were enthusiastic about their education, there does not seem to be any systematic alumni relations program. Although Israel, unlike the US, does not have a culture of strong alumni relations, strong alumni relations can be very helpful for the college in terms of goodwill, placing students in jobs, and influence.

## Recommendations

### **Short term [~ within 1 year]:**

- a. The administration and the faculty must work together to address the enrollment crisis. This requires frequent and ongoing communication and a shared plan and a sense of responsibility.

### **Intermediate term [~ within 2-3 years]:**

- b. The college should establish an alumni relations program to keep regular contact with the alumni and leverage this program in its student recruiting efforts.
- c. The college should establish a program of industrial relations and leverage it in its student recruiting efforts.

## **3. Mission and Goals**

### Observation and findings

The college's mission of providing personalized, high-quality education is well-executed by the faculty and well-received by the students and the alumni.

Unfortunately, the program size has declined and is now stagnant. Not only is the current enrollment level economically unviable to sustain the program, this decline is in contrast to comparable programs elsewhere, where computer science enrollments are growing.

The college makes very poor use of easily accessed, widely used, and highly visible information sources for prospective students, such as Wikipedia, Facebook, and similar media.

### Recommendations

#### **Short term [~ within 1 year]:**

- a. The college must undertake an immediate and effective effort to increase enrollment.

## **4. Study Programs**

### Observation and findings

The BSc. And MSc. programs themselves are reasonable, covering appropriate topics, and comparable to similar programs elsewhere. The quality of education received by students in the program appears to be excellent, and the level of personalized attention allows some students who would likely fail elsewhere to flourish and do well at Hadassah College. It is unclear the extent to which the curriculum designers were aware of internationally-accepted models such as the ACM / IEEE-CS curricula.

Some have suggested that increased enrollment in the Haredi program could alleviate the program's unsustainably low levels of enrollment. (The Haredi program is currently closed due to lack of enrollment.) The committee does not view a renewed Haredi program as a solution to the enrollment crisis. Rather, the committee believes that the solution is to bring more students into the mainstream program. Given that both female and male students study together in the college, separate classes will be needed for the Haredi program; thus this program will not increase the students/teachers ratio.

The computer science program does not take enough advantage of the other study programs in the college. There seems to be opportunity for synergy in offering degrees that combine computer science with the college's other programs.

### Recommendations

#### **Intermediate term [~ within 2-3 years]:**

- a. The department should develop curricular partnerships with other programs in the college, for example by defining new concentrations within the computer science program.

## **5. Human Resources / Faculty**

### Observation and findings

The committee was impressed by the dedication and enthusiasm of the faculty members at all levels. The professional development efforts were impressive, though largely self-motivated (e.g., the department does not hold a regular colloquium or seminar), but the college and department are starting to recognize and support such efforts. Support from the college's higher administration for



professional development is critical to keeping the academic staff motivated and technically up-to-date.

In response to low enrollment, the administration has started to reduce working hours of some faculty members. The committee is concerned that this action will cause irreparable damage to faculty morale, and could lead to the loss of key faculty members. Departures tend to escalate, and the ones who leave first are often the most valuable.

Communication between the administration and faculty could be improved. The faculty seemed unaware that the president and rector were working to improve the computer science program's visibility and enrollment levels.

### Recommendations

#### **Intermediate term [~ within 2-3 years]:**

- a. The department must ensure that there is a vigorous program of professional development for faculty members at all levels.
- b. Concurrently with an effort to increase enrollments, the administration must strive to prevent departures and keep the current group of senior academic staff in the department.

## **6. Students**

### Observation and findings

The students were proud of their education and recognized the dedication and personal attention provided by the faculty members. The students and alumni who spoke to the committee felt they were well-prepared for work.

## **7. Teaching and Learning Outcomes**

### Observation and findings

The teaching and learning outcomes stated are appropriate, but no systematic effort has been made to determine whether they have been achieved.

## Recommendations

### **Short term [~ within 1 year]:**

- a. The department should set in place a process to reflect on the attainment of outcomes in a planned, periodic manner.

## **8. Research**

### Observation and findings

The professional development by the faculty, although almost entirely self-motivated, is exemplary. The research activity is in the service of education, which is exactly how research should be done in a college. Professional development such as attending lectures, student research projects, and outreach activities such as the Turing museum exhibit are excellent examples of activities that engage both students and academic staff.

The committee was impressed with the undergraduate research projects.

## **9. Infrastructure**

### Observation and findings

The college web site is difficult to find and inadequate to its mission. We were unable to find a clear description of the program, or an explanation of the program's selling points. There was no usable contact information. There seemed to be no attempt to use easily accessible tools like Facebook or Google AdWords to publicize the program.

The equipment in the labs is outdated. The wireless network is inadequate. Given the ubiquity of personal mobile computers, the focus on desktop equipped labs is outdated and expensive.

### Recommendations

#### **Long term [until the next cycle of evaluation]:**

- a. The College should change the infrastructure to emphasize wireless networks, servers, and virtualization. The college must set up a process where infrastructure needs are regularly reviewed and improvements are prioritized.

## **10. Self-Evaluation Process**

### Observation and findings

The self-evaluation report did not adequately convey the program's weaknesses and strengths. Based on the report, the committee arrived for its visit expecting to find a program on the verge of collapse. It was only through interviews that the committee was able to discover the program's strengths and vitality. The academic staff and administration should be very careful to prepare accurate reports for future visiting committees.

## **Chapter4: Summary of Recommendations and Timetable**

### **Short term [~ within 1 year]:**

1. The administration and the faculty must work together to address the enrollment crisis. This requires frequent and ongoing communication and a shared plan and a sense of responsibility.
2. The college must undertake an immediate and effective effort to increase enrollment.
3. The department should set in place a process to reflect on the attainment of outcomes in a planned, periodic manner.
4. The administration and the faculty must work together to address the enrollment crisis. This requires frequent and ongoing communication and a shared plan and a sense of responsibility.
5. The college must undertake an immediate and effective effort to increase enrollment.
6. The department should set in place a process to reflect on the attainment of outcomes in a planned, periodic manner.

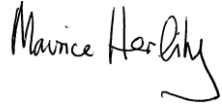
### **Intermediate term [~ within 2-3 years]:**

7. The college should establish an alumni relations program to keep regular contact with the alumni and leverage this program in its student recruiting efforts.
8. The college should establish a program of industrial relations and leverage it in its student recruiting efforts.
9. The department should develop curricular partnerships with other programs in the college, for example by defining new concentrations within the computer science program.
10. The department must ensure that there is a vigorous program of professional development for faculty members at all levels.
11. Concurrently with an effort to increase enrollments, the administration must strive to prevent departures and keep the current group of senior academic staff in the department.

**Long term [until the next cycle of evaluation]:**

12. The College should change the infrastructure to emphasize wireless networks, servers, and virtualization. The college must set up a process where infrastructure needs are regularly reviewed and improvements are prioritized.
-

**Signed by:**



---

Prof. Maurice Herlihy  
Committee Chair



---

Robert L. Constable



---

Prof. Dmitry Feichtner-Kozlov



---

Prof. Kraus Sarit



---

Prof. Joe Turner, Jr



---

Prof. Moshe Vardi

## Appendix 1: Letter of Appointment



הוועדה לתכנון ותקצוב | Planning & Budgeting Committee

12.5.2013  
Jerusalem

Professor Maurice Herlihy  
Computer Science Department  
Brown University  
USA

Dear Professor Herlihy,

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, provide the public with information regarding the quality of study programs in institutions of higher education throughout Israel, as well as ensure the continued integration of the Israeli system of higher education in the international academic arena.

As part of this most important endeavor we reach out to world-renowned scientists to help us meet the critical challenges confronting Israeli higher education by extending our invitation to participate in an international evaluation committee. This process represents an opportunity to assess the current state of the field and plan for the future. This systematic process of quality assessment also establishes a framework for the interactive consultative process taking place between scientists around the globe regarding common academic dilemmas.

It is with great pleasure that I hereby appoint you to serve as chair of the Council for Higher Education's Committee for the Evaluation of Computer Science. The composition of the Committee will be as follows: Professor Maurice Herlihy, Committee Chair, Professor Moshe Vardi, Professor (Emeritus) Joe Turner Jr., Professor Robert L. Constable, Professor Sarit Kraus, Professor David Dobkin, and Professor Dmitry Feichtner-Kozlov.


Ms. Yael Herzstein will coordinate the Committee's activities.

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

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

I wish you much success in your role as the Chair of this most important committee.

Sincerely,

  
Dr. Avital Stein  
Director General,  
The Council for Higher Education

*Enclosures:* Appendix to the Appointment Letter of Evaluation Committees

cc: Ms. Michal Neumann, The Quality Assessment Division  
Ms. Yael Herzstein, Committee Coordinator

ת.ד. 4037 ירושלים 91040 ס"ל. Tel: +972-(0)2-5094500/02. Fax: +972-(0)2-5094686. P.O.B 4037. Jerusalem 91040. ISRAEL. | email: [director-general@che.org.il](mailto:director-general@che.org.il) | [www.che.org.il](http://www.che.org.il)

**Appendix 2: Site Visit Schedule**

**Computer Sciences – Schedule of Site Visit**

**Thursday, May 30, 2013**

<b>Time</b>	<b>Subject</b>	<b>Participants</b>
09:00-09:45	Opening session with the heads of the institution and the senior staff member appointed to deal with quality assessment	Prof. Bertold Fridlender Dr. Zachi Milgrom
09:45-10:30	Meeting with the Head of the School of Computer Sciences	Prof. Michel Bercovier
10:30-11:15	Meeting with the Chair of Computer Science Department & Meeting with the Coordinator of Master's Program	Dr. Yoram Biberman Dr. Solange Karsanty
11:15-12:15	Meeting with senior academic staff (and representatives of relevant committees)*	Dr. Michal Alhanaty , Dr. Laure Barthel Prof. Michael Berman, Dr. Martin Land Dr. Eran London, Dr. Simcha Rozen, Dr. Faraj Shieban, Dr. Arieh Yakir, Dr. Yoram Yekutieli, Dr. Michal Alhanaty, Dr. Laure Barthel, Dr. Eran London, Dr. Simcha Rozen, Dr. Faraj Shieban, Dr. Arieh Yakir Dr. Martin Land and Dr. Yoram Yekutieli
12:15-13:00	Meeting with Adjunct academic staff *	Ms. Yael Arad, Mr. Ohad Asulin, Mr. Tzvi Melamed, Mr. Aviv sheyn
13:00-13:45	Lunch	Closed door meeting of the committee
13:45-14:30	Tour of facilities: classrooms, library, labs, offices	
14:30-15:15	Meeting with Undergraduate Students	
15:15-16:00	Meeting with Graduate Students	
16:00-16:45	Meeting with Alumni	
16:45-17:00	Closed door meeting of the Committee	
17:00-17:45	Summation meeting with heads of school	Prof. Michel Bercovier, Dr. Yoram Biberman, Dr. Solange Karsenty
17:45-18:30	Summation meeting with heads of institution	Prof. Bertold Fridlender Dr. Zachi Milgrom

\* 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.