



Computer Engineering Program

SWOT Analysis Report

This document presents the results of the analysis study performed by the Computer engineering program in order to identify the weak points and the threats that are facing our graduates. Further enhancements action points to the program will be included to the program action plan based on this study.

The study results have been based on the inputs acquired from three different sources:

- 1- Survey feedback from Computer Engineering faculty members and assistants.**
- 2- Oral feedback from national and multinational companies working in the field during mainly two events:**
 - A- Graduation project day of the department where company representatives attend. This is yearly event held one hour after the official student graduation project oral defense where companies working within the field are invited.**
 - B- The annual faculty job fair that company representatives attend.**
- 3- Oral feedback from the department graduates ten years ago during their honoring event. This happens yearly through the ICENCO international conference organized by the department. Ten year graduates are invited, honored for their achievements and getting their feedback.**

The following summarizes the main results of the SWOT analysis that reflect the most effective points as identified by the majority of the participants.



S- Strength points:

- 1- The students accepted to start studying in the discipline are top students out of the already top students from Secondary schools joining the faculty of engineering.**
- 2- The department has diversified relations to the top multinational and national companies working in the field in Egypt through its faculty members.**
- 3- The good reputation of the department for the quality of its graduates that is accredited to the fact that our class numbers are not large, our staff members have dedication and passion in promoting the department as well as the course teaching style that concentrates on teaching our graduates self-learning skills allowing them to cope with the most difficult market challenges they may face.**
- 4- Diversity of Countries where the department faculty members earned their PhD allows for a good blend of different cultures and scientific schools.**

W- Weakness points

- 1- Weak research cooperation with similar departments within Egyptian universities.**
- 2- Limited Egyptian industry research grants.**
- 3- Non –continuity of research lines either due to travel of top graduates particularly our teaching assistance or their recruitment by multinational companies and discouraging them to pursue further graduate studies.**
- 4- Faculty members have limited time to devote to research due to their engagement in several other activities. This has also affected on even passing on applying for the few available grants and /or limited resources. In addition, their assistants are not well trained to write proposals.**



O- Opportunities

- 1- The good reputation and existence of our graduates around the world to open channels of cooperation. This may take different forms to list a few: arranging live/virtual meetings during ICENCO the international conference the department organizes yearly; arranging for internships and joint projects and reviving relations among graduates inland and abroad and getting experts in similar fields to cooperate.
- 2- The realization of the fast development and necessity of the Computer Technology within the government allowing the generation of many mega projects the department may benefit from by giving its expertise at a cost.
- 3- The expansion of FinTech and AI applications in the Industry requiring top notch graduates to serve the cause.
- 4- The new policy for Ministry of Higher Education and Scientific Research allowing special grants for fresh PhD holders although this is not well publicized and is not dedicated to attract the cream of graduates to return to their home land.

T- Threats

- 1- Brain drainage where almost 95% of our top graduates do not return back after earning their PhD.
- 2- Decline of many of top students to be recruited in assistant position with the department due to other attractions in terms of salaries and franchise. This drains teaching assistants the main source for future faculty members.
- 3- The expansion of new private universities offering much higher salaries and franchise would drain the remaining faculty members.
- 4- Current bylaws that allow long period of faculty members on leave as well as non-flexible temporary appointments.