

## **Three Engineering Programs at Jordan University of Science and Technology Granted ABET Accreditation**

For the first time in the history of higher education in Jordan, three undergraduate Engineering Programs in the Faculty of Engineering at Jordan University of Science and Technology (JUST); namely Chemical, Biomedical, and Industrial Engineering have been accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET) of the United States of America. By this achievement, the three programs take the lead in the world to receive this accreditation outside the United States. To this endeavor, the undergraduate degrees offered by any of the three departments are similar to those offered by any US ABET-accredited university. The Biomedical Engineering at JUST is the first of its kind to receive such accreditation outside the United States.

ABET, founded in 1932, is the recognized US accreditor of college and university programs in applied science, computing, engineering, and technology. ABET evaluates all aspects related to the program applying for accreditation, which include.

1. Students
2. Program Educational Objectives
3. Program Educational Outcomes
4. Continuous Improvement
5. Curriculum
6. Faculty
7. Facility
8. Support
9. Program Criteria

The first step in ABET accreditation is that an institution requests an evaluation of its program(s). Each program then conducts an internal evaluation and completes a Self-Study Report (SSR). The SSR documents whether students, curriculum, faculty, administration, facilities, and institutional support meet the established criteria set by ABET. While the program conducts its self-examination, the appropriate ABET commission forms an evaluation team to visit the campus. A team chair and one or more program evaluators make up the evaluation team. Team members are volunteers from academe, government, and industry, as well as private practices.

During the on-campus visit, the evaluation team reviews course materials, student projects, and sample assignments and interviews students, faculty, and administrators. The team investigates whether the criteria are met and tackles any question raised in the SSR.

Noteworthy mentioning in this context that the preparation of such accreditation requires enormous effort in terms of documentation, methodology and quality assessment as well as delivery of information. For this goal, the Faculty of Engineering at JUST had to conform to a deliberate and effective strategy that put

JUST in the forefront of Jordanian Universities in this regard. Needless to say, as an effort to boost this project, the Faculty has appointed a vice-dean for the task of quality engineering education and accreditation. In addition, different committees have been formed for this purpose at the level of the college and the departments; this is besides the Industrial Advisory Boards which consist of representatives of local industries, Engineers Association, government and private sectors, who were involved in the review process of the educational objectives and outcomes of each department. Such involvement in this mutual effort had a clear impact on the study plans of each department to meet the local and global market demands. As a part of this project, the college had to review its vision, mission and its objectives to meet the accreditation requirements.

In an effort to increase the awareness of ABET accreditation among the staff in the Faculty, plenty of workshops and lectures were held on campus for the faculty members and engineers, wherein modern assessment methods were demonstrated. This attempt necessitated the call for reconsidering the structure of the study plans to fit the accreditation requirements in order to meet the domestic and global market needs. In this context, and in order to have all the educational parties participate in such project, the Faculty has organized alumni days as an attempt to have more feedback on what the market may need and what skills the graduates should possess. Moreover, specially designed questionnaires have been delivered to different companies that hire graduates or provide training to the Faculty of Engineering students so as to assess the skills acquired by students and ensure that training is delivering on its objectives.

Such accreditation requires more students' involvements in all stages. Thus, the students had been involved in evaluating courses they study, and extra-curricular activities. For this reason, the Faculty of Engineering has designed different evaluation forms for each course that can be filled out by the students. In addition, special questionnaires have been designed for the senior students for further feedback about their educational experience in their departments. The results of all questionnaires and surveys were analyzed with the aid of state-of-the-art software tools to provide better insights, explanations and recommendations. The Faculty also has adopted special programs designed to assess the study plans as an attempt to verify the conformity to the anticipated educational outcomes.

The Faculty of Engineering has applied for the accreditation of three programs, the Chemical, Biomedical and Industrial Engineering, in 2008. The Faculty is planning to apply for the remaining programs in 2010 once they complete the ABET requirements.