



Association of Egyptian-American Scholars

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Visit to Faculty of Engineering, Ain Shams University

By Dr. Ahmed ElSawy

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Dr. Mohamed Megahed of CUFE and Dr. Hadia ElHennawy the Dean of Engineering made the necessary arrangements for me to visit the Faculty of Engineering – Ain-Shams University on 1st of July 2009. Following find the names of the faculty (staff) who attending this ABET Workshop:

Name	Department
Dr. Mahmoud M. Aboelnasr	Associate Dean
Dr. Abdelaziz M. Abdelaziz	Mechanical Power
Dr. Fathalla Mohamed	Structural Engineering
Dr. Nabila Shawki Elnahhas	Automotive Engineering
Dr. Nahed Sobhi Abdel-Nour Mohamed	Mechanical Design and Production Engineering
Dr. Hatem Elrefae	Engineering Physics
Dr. Iman Elazizy	Associate Dean
Dr. Mohmoud Samy Abdelsalam	Irrigation and Hydraulics
Dr. Fathy Adberahim Saad	Structural Engineering
Dr. Gamal Mohamed Attia Elkholy	Architectural Engineering
Dr. Ameen Mohamed Kamel ElKharbotly	Production Engineering
Dr. Ibrahim Helal	Professor
Dr. Hadia M. Said ElHennawy	Dean of Engineering

ABET WORKSHOP EVENTS:

1. Introduction to ABET website: <http://www.abet.org/>

- **ABET, Inc.**, the recognized accreditor for college and university programs in applied science, computing, engineering, and technology, is a federation of 30 professional and technical societies representing these fields. Among the most respected accreditation organizations in the U.S., ABET has provided leadership and quality assurance in higher education for over 75 years.
- **ABET** currently accredits some 2,800 programs at more than 600 colleges and universities nationwide. Over 1,500 dedicated volunteers participate annually in ABET activities.
- **ABET** also provides leadership internationally through [workshops](#), consultancies, [memoranda of understanding](#), and [mutual recognition agreements](#), such as the [Washington Accord](#).
- **ABET** is recognized by the [Council for Higher Education Accreditation](#) in the USA.

2. Non-Domestic (non-USA) Accreditation

- In fall 2005, the ABET Board of Directors unanimously approved proceeding with developing a plan for non-domestic accreditation that will continue to honor existing [mutual recognition agreements](#) and [memoranda of understanding](#) and phase out [substantial equivalency](#) evaluations.
- Substantial equivalency evaluations have since been phased out, a draft non-domestic accreditation plan has been created, and the first non-domestic accreditation visits were held in fall 2007.
- The non-domestic accreditation visits are conducted using the same accreditation criteria and the same policies and procedures as domestic visits. Interested parties should learn more about ABET accreditation by visiting the links listed under "Resources for programs" on the left-hand navigational menu.

3. **Review of ABET's Criteria FOR Accrediting Undergraduate Engineering Programs:** (<http://www.abet.org/Linked%20Documents-UPDATE/Criteria%20and%20PP/E001%2009-10%20EAC%20Criteria%2012-01-08.pdf>)

- **Program Educational Objectives** – Program educational objectives are broad statements that describe the career and professional accomplishments that the program is preparing the graduates to achieve.
- **Program Outcomes** – Program outcomes are narrower statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire in their matriculation through the program.
- **Assessment** – Assessment is one or more processes that identify, collect, and prepare data to evaluate the achievement of program outcomes and program educational objectives.
- **Evaluation** – Evaluation is one or more processes for interpreting the data and evidence accumulated through assessment practices. Evaluation determines the extent to which program outcomes or program educational objectives are being achieved and results in decisions and actions to improve the program.

4. **ABET Self Study Format (Template):** (<http://www.abet.org/Linked%20Documents-UPDATE/Program%20Docs/E003%20Self-Study%20Questionnaire%202009%206-11->

5. **Examples of ABET Accreditation Self Study Reports to follow:**

- a. Bachelor of Science in Civil Engineering – Wayne State University:
http://www.eng.wayne.edu/user_files/316/File/CE%20ABET%20Self%20Study%202006%20FINAL.pdf
- b. Bachelor of Science in Electrical Engineering – University of New Mexico:
http://www.ece.nmsu.edu/pdf/ABET-NMSU-ECE-Self-Study_Document_Rev0.pdf
- c. Bachelor of Science in Electrical Engineering - UNIVERSITY OF CALIFORNIA, IRVINE:
http://www.ece.uci.edu/eceware/public/UCI_EECS/ABET/ee_selfstudy_short.pdf
- d. Bachelor of Science in Environmental Engineering – University of Delaware:
<http://www.ce.udel.edu/ABET/ABET%20Self-Study.ENERG.Final.pdf>

6. **Visit some Production Engineering Labs and meeting with Engineering faculty (staff)**

- e. The labs are well equipped for undergraduate and graduate studies in materials testing, metallurgy and electron microscopy/x-ray diffraction.
- f. The faculty (staff) are very dedicated to teaching and research excellence.
- g. **The major problems are:**
 - i. The large number of students they serve and
 - ii. The relatively low salaries in comparison to the private institutions and standard of living. This force the faculty (staff) to work outside the university to make more money so they can survive on the same standard of living of the faculty (staff) in the private universities. The absence of faculty (staff) from campus has a major impact on the quality of teaching, research and service.

- h. I have learned that they established second private degree programs with credit hours were the students pay tuition similar to other private universities in Egypt. The proceed (gain) from this private type of education is used to support the traditional-government subsidized (Free) engineering programs. For this new degree programs

I suggest that:

- i. Pursue ABET accreditation because of the relatively smaller number of enrolled students and possible similarity to the ABET curriculum.
- ii. After receiving ABET accreditation, I suggest that the faculty of Engineering, Ain Shams University, work on a 3+2 articulation program with an American University like Tennessee Technological University (TTU), were the students starts their freshman and sophomore years at Ain Shams University and finish their junior and senior years at the American Institution. Following this model will allow the students to graduate with dual degrees from both Tennessee Technological University and Ain Shams University. If this suggestion is acceptable, Ain Shams University, with the long history of excellence, will be ahead of several of the commercial universities which are all over the place in Egypt. To be practical, I provided the workshop's attendees TTU's College of Engineering degree program and if this suggestion is acceptable both institutions need to have a signed memorandum of understanding for academic cooperation between the two institutions.
- i. I was very impressed with the new Center of Quality Assurance Unit (QAU). I was pleased to see that they developed a faculty (staff) evaluation which is needed to assure the quality of teaching and students satisfaction. This evaluation is one of the assessment tools needed for ABET accreditation. Traditionally, this evaluation was

not in place in Egypt and the faculty (staff) were neglecting their students and not paying attention to their students needs.

- j. Finally, I would like to commend Dr. Hadia ElHennawy for her leadership style, her vision for the future of the Engineering Education at Ain-Shams University, as well as her friendly attitude and generosity.